



FRIDAY, AUGUST 29.

## Train Accidents in July.

The following accidents are included in our record for the month of July:

## COLLISIONS.

## REAR.

On the morning of the 1st a freight train on the Philadelphia & Erie road ran over a misplaced switch and into some oil cars standing on a siding at Driftwood, Pa. Several cars were damaged. The oil cars caught fire and were destroyed, the fire not only burning up the ties and destroying the road-bed for some distance, but burning down some 15 buildings adjoining the track.

Near midnight on the 1st a coal train on the Kentucky Central road ran into the rear of an ore train at Cunningham, Ky., wrecking the caboose car, killing two passengers and wounding five others.

On the morning of the 2d a passenger train on the Albany & Susquehanna road ran into the rear of a freight train at Worcester, N. Y., and six cars were wrecked. The wreck caught fire and two cars were burned up.

On the afternoon of the 2d a passenger train on the New York Central & Hudson River Railroad ran over a misplaced switch and into a freight train standing on a siding in Albany, N. Y. Both engines were badly wrecked. The postal car of the passenger train and several freight cars were damaged. A postal clerk was seriously hurt and four others slightly bruised.

On the afternoon of the 3d the second section of a freight train on the Buffalo, New York & Philadelphia road ran into the first section which had been stopped a few minutes before at Sonyea, N. Y., by the derailing of several cars. The engine and six cars were somewhat damaged. The wreck caught fire and three cars were burned up.

Very early on the morning of the 5th an excursion train on the Fargo Southern road ran into a boarding car which had been left standing on the main track near Fairmount, Dak. The car was wrecked and three persons who were in it were hurt.

On the morning of the 5th a New York, Lake Erie & Western freight train ran into the rear of a Rochester & Pittsburgh freight train on the track used by both roads near Bradford, Pa. The engine was damaged and several cars wrecked.

On the morning of the 7th a passenger train on the New York, West Shore & Buffalo road ran into the rear of a switching freight train at New Durham, N. J., wrecking several cars and killing a brakeman.

On the afternoon of the 7th a passenger train on the Flint & Pere Marquette road ran into the rear of a gravel train near East Saginaw, Mich., wrecking three cars.

On the night of the 9th, a passenger train on the New London Northern road ran over a misplaced switch and into some passenger cars standing on a siding at Palmer, Mass. The engine and one car were badly damaged.

On the afternoon of the 12th a coal train on the Delaware & Hudson Canal Co.'s road broke in two near Gansevoort, N. Y., and the rear section afterward ran into the forward one, wrecking several cars.

On the morning of the 18th a freight train on the Pennsylvania Railroad ran into the rear of a preceding freight near Bainbridge, Pa., and 12 cars were badly damaged.

On the morning of the 22d a freight train on the New York & Long Branch Railroad ran into the rear of a preceding freight which had stopped at Deal Beach, N. J. The engine and several cars were damaged, the road blocked for several hours and the fireman of the second train was killed.

On the afternoon of the 22d a freight train on the New York, Ontario & Western road ran into the rear of a passenger train which had been stopped near Cook's Falls, N. Y., where a team drawing a heavy log across had got stalled. The rear car of the passenger and the engine of the freight train were slightly damaged and the fireman was somewhat hurt.

On the night of the 22d a freight train on the Canadian Pacific road ran into a preceding freight at Papineau, Que., wrecking several cars.

On the afternoon of the 23d a freight train on the New York, Lake Erie & Western road broke in two near Greycourt, N. Y., and the rear section ran into the forward one, wrecking three loaded cars and blocking both tracks for some time.

On the morning of the 25th a coal train on the Lehigh Valley road, which was near Glen Summit, Pa., was following a pusher engine which exploded its boiler, and no one being left alive to flag it, struck the wrecked engine. The engine of the coal train was thrown over and badly wrecked by the obstruction on the track, and 34 coal cars were piled up on top of it, making a very bad wreck and blocking the road the best part of the day. The engineer of the coal train was considerably hurt.

On the afternoon of the 25th a freight train on the Pittsburgh, Cincinnati & St. Louis road ran into a preceding freight near Coshocton, O., wrecking the caboose and three other cars and damaging the engine.

On the evening of the 27th a passenger train on the Pennsylvania Railroad ran over a misplaced switch and into some passenger cars on a siding in Jersey City, N. J., damaging two cars.

On the morning of the 29th a freight train on the Lake Shore & Michigan Southern road ran into the rear of a preceding freight near Eakhart, Ind., wrecking the caboose, killing one trainman and injuring three others. There was a dense fog at the time.

On the night of the 29th a freight train on the Louisville & Nashville road ran into a preceding freight near Backner, Ky., damaging four cars.

On the afternoon of the 30th a special passenger train on the Memphis & Charleston road ran into the rear of a freight train near Memphis, Tenn., and the engine and several cars were badly wrecked. Two passengers were hurt.

Near midnight on the 30th a freight train on the Wabash, St. Louis & Pacific road broke in two near Monticello, Ill., and the rear section ran into the forward one, wrecking four cars.

Early on the morning of the 31st a freight train on the Pennsylvania Railroad ran into the rear of a preceding freight near Seelton, Pa., and the engine and five cars were badly damaged.

On the afternoon of the 31st a construction train on the Canadian Pacific road ran into a preceding construction train near Rat Portage, Man., wrecking several cars.

## BUTTING.

On the morning of the 3d there was a butting collision between a wild engine and a passenger train on the Elmira,

Cortland & Northern road near Cazenovia, N. Y., by which both locomotives were badly damaged.

On the afternoon of the 5th there was a butting collision between two work trains on the New York Central & Hudson River Railroad in Utica, N. Y., damaging both engines and several cars.

On the afternoon of the 9th there was a butting collision between a freight train and a wild engine on the Marquette, Houghton & Ontonagon road near Bruce Mine, Mich. Both engines were considerably damaged and several cars wrecked.

On the night of the 9th an ore train on the Marquette, Houghton & Ontonagon road broke in two when near Eagle Mills, Mich., and the rear cars ran back down grade and into the head of a following passenger train. Several ore cars were wrecked and the passenger engine was badly damaged.

On the morning of the 11th there was a butting collision between a freight train and a yard engine on the Long Island road at Hunter's Point, N. Y. One engine was badly damaged.

On the evening of the 13th there was a butting collision between two passenger trains on the Baltimore & Ohio road at the Y-switch, near the depot in Washington. Both engines were wrecked and several passenger cars were thrown up on top of the locomotive and also badly wrecked. The engineer and fireman of one of the trains were fatally scalded, and nine passengers were less severely hurt. It is said that the accident was caused by the failure of the signalman to display the proper danger signal at the end of the Y. One of the trains was a west-bound train from Baltimore, and was on time; the other was an east-bound train coming in from the west, but was behind time, and should have been stopped and held until the eastern train had passed.

On the afternoon of the 14th there was a butting collision between a passenger and a coal train on the Brooklyn, Bath & Coney Island Railroad near City Line station, N. Y. It was caused, it is said, by the carelessness of the engineer of the coal train, who, instead of going on a siding at that point, started his train up, intending to run to the next station before meeting the passenger.

The engineer of the coal train jumped from his engine after reversing it, just before the collision, and the reversed engine started back under steam toward the terminus of the road at considerable speed. After running about half a mile it met a following passenger train, and the engine, coal car and several passenger cars were damaged. The engineer, fireman and eleven passengers were slightly hurt.

On the night of the 15th there was a butting collision between two freight trains on the St. Louis & San Francisco road, near Dixon, Mo. Both engines were wrecked, the fireman killed and the other fireman badly hurt.

On the morning of the 16th there was a butting collision between a freight train and a wild engine on the Pittsburgh & Lake Erie road in the tunnel at Pittsburgh, Pa., by which both engines were badly damaged.

## CROSSING.

On the morning of the 21st a passenger train on the Pittsburgh, McKeesport & Younglophen road ran into a freight train on the Baltimore & Ohio road at the crossing of the two lines at Hays, Pa. Several cars were wrecked and the passenger engine was somewhat damaged. The engineer of the passenger train claims that he had attempted to stop his train before reaching the crossing, but was unable to do so, as the rails were very wet and slippery.

## DERAILMENTS.

## BROKEN BRIDGE.

On the morning of the 1st a passenger train on the Oregon & California Railroad broke through a wooden bridge near Salem, Oregon. The engine went across, but the tender, baggage car and smoking car fell through and were considerably damaged. The baggage-master and two passengers were badly hurt. The bridge had been on fire and the stringers partly burned through the night before.

On the morning of the 6th a freight train on the Missouri, Kansas & Texas road ran upon a burning wooden bridge near Checotah, Ind. Ter. The bridge was on a curve, and the engineer did not see the fire until he was so close that it was impossible to stop. The engine and four cars passed over, but eight cars broke through and went down into the ravine. One of the wrecked cars was loaded with oil in barrels, which of course added to the fire, and the road was blocked several hours. A brakeman went down with the cars, and was either killed at once or burned to death.

On the night of the 11th, a freight train on the Chicago, Burlington & Quincy road broke through a small bridge near Milford, Neb., and several cars went down and were wrecked.

On the evening of the 19th a freight train on the Chesapeake, Ohio & Southwestern road broke through a bridge near Poplar Creek, Ky., and a number of cars went down into the creek. A brakeman was caught under the wreck and was killed, and three other trainmen were seriously hurt.

On the afternoon of the 28th a freight train on the Bedford & Bloomfield road broke through the bridge over the White River near Switz City, Ind. The bridge was a Howe truss, and the span broke at the centre, the whole train falling some 35 ft. into water 10 ft. deep. The conductor, a brakeman and three passengers who were in the caboose were injured, and another passenger was instantly killed. The span which broke was 160 ft. long; it was seven years old but had been recently inspected and pronounced good by the inspector for at least two years more. The train was not unusually heavy.

## SPREADING OF RAILS.

About noon on the 1st the engine of a passenger train on the Northern Pacific road was thrown from the track in Sauk Rapids, Minn., by the spreading of the rails on a piece of new track, which had been hastily laid.

On the evening of the 21st fourteen cars of a freight train on the Virginia Midland road were thrown from the track near Lynchburg, Va., by the spreading of the rails.

On the afternoon of the 31st two cars of a passenger train on the International & Great Northern Road were thrown from the track near Hallville, Tex., by the spreading of the rails.

On the afternoon of the 10th six cars of a freight train on the Terre Haute & Logansport road were thrown from the track near Rockville, Ind., by the spreading of the rails.

On the morning of the 15th a freight train on the Evansville & Terre Haute road was thrown from the track near Vincennes, Ind., by the spreading of the rails. Several cars and a caboose went into the ditch. Four men in the caboose were hurt, two of them very badly.

On the evening of the 19th an excursion train on the Valley road was thrown from the track in Canton, O., by the spreading of the rails. Nine cars were thrown from the track, two of them being upset down a bank and into a small pond, injuring 23 passengers, most of them slightly.

## BROKEN WHEEL.

On the evening of the 6th the rear car of a passenger train on the Atlantic & Pacific Railroad was thrown from the track near High Bridge, Ariz., by a broken wheel. The car went over down a bank and was wrecked, killing the con-

ductor of the train and injuring the Pullman conductor and five passengers.

## BROKEN AXLE.

On the morning of the 4th several cars of a freight train on the Minneapolis & St. Louis road were thrown from the track near Livermore, Ia., by a broken axle.

On the morning of the 26th several cars of a freight train on the New Jersey Southern Division of the Philadelphia & Reading road were thrown from the track near Rosenbany, N. J., by a broken axle.

## BROKEN TRUCK.

On the morning of the 16th a car of a freight train on the Housatonic Railroad was thrown from the track near Falls Village, Conn., by the breaking of a truck, and several other cars followed it off the track and were piled up in a bad wreck. A brakeman was killed and a tramp who was stealing a ride was injured. The open car was loaded with marble and it is said to have had too heavy a load.

On the morning of the 27th a freight train on the New York, Lake Erie & Western road was thrown from the track near Alden, N. Y., and some 20 cars were piled up in a bad wreck. Three cars were thrown over against a barn adjoining the track, knocking it down. The accident was caused by the breaking of a truck under a coal car.

## ACCIDENTAL OBSTRUCTION.

On the afternoon of the 8th an iron bar fell from an engine which was being hauled in a freight train on the New York, Lake Erie & Western road near Friendship, N. Y., and several cars were thrown from the track and badly wrecked by the obstruction.

On the morning of the 10th a passenger train on the Western Railroad of Alabama struck a wagon near Montgomery, Ala., and the engine was thrown from the track.

## CATTLE ON TRACK.

On the morning of the 5th a passenger train on the Natchez, Jackson & Columbus road ran over a cow near Raymond, Miss., and the whole train was thrown from the track. A mail clerk and five passengers were slightly hurt.

On the morning of the 11th a freight train on the Bedford & Bloomfield road ran over a cow near Bedford, Ind., and the engine was thrown from the track, slightly injuring the engineer and fireman.

On the night of the 26th ten cars of a freight train on the Chicago, Burlington & Quincy road were thrown from the track near West Point, Neb., by running over a cow. A tramp who was stealing a ride was badly hurt.

On the morning of the 30th a passenger train on the Kansas Division of the Union Pacific road ran over a cow near Cheyenne Wells, Col., and the engine and two cars were thrown from the track. A passenger was slightly hurt.

## WASH-OUTS AND LAND-SLIDES.

Very early on the morning of the 6th a freight train on the New York, West Shore & Buffalo road ran into a landslide near Milton, N. Y., and the engine was thrown from the track.

On the night of the 22d a passenger train on the Chicago, Milwaukee & St. Paul road ran into a wash-out near Augusta, Minn., and the engine and baggage car went down into the gap. The baggage car was wrecked but the passenger cars of the freight train escaped serious injury.

On the evening of the 25th a coal train on the New York, Susquehanna & Western road ran into a landslide near Swartwood, N. J., and the engine and five cars were thrown from the track.

## RUNAWAY ENGINE.

On the morning of the 28th an engine on the East Tennessee, Virginia & Georgia road, which was standing with no one on board on the track in Macon, Ga., waiting to take out a passenger train, suddenly started of its own motion and ran about 50 ft., when it was thrown from the track by an open switch and upset.

## MISPLACED SWITCH.

On the afternoon of the 21st the engine of a freight train on the Raleigh & Gaston road was thrown from the track in Raleigh, N. C., by a misplaced switch. The engine upset and was somewhat damaged. The engineer was slightly hurt.

On the morning of the 5th the engine of a freight train on the Minneapolis & St. Louis road was thrown from the track near Fort Dodge, Ia., by a misplaced switch.

On the afternoon of the 28th four cars of a freight train on the New York, New Haven & Hartford road were thrown from the track in Springfield, Mass., by a misplaced switch.

On the night of the 28th the engine and several cars of a coal train on the Buffalo Creek road were thrown from the track near Buffalo, N. Y., by a misplaced switch. Several cars were wrecked and a conductor was badly hurt.

## MALICIOUS.

On the evening of the 27th a passenger train on the Texas & St. Louis road was thrown from the track near Corsicana, Tex., where two rails had been removed from the track. Seven men were arrested under suspicion of wrecking the train.

## UNEXPLAINED.

About noon on the 21st a freight train on the Buffalo, New York & Philadelphia road ran off the track at Tuscarora, N. Y., and several cars were damaged.

On the afternoon of the 2d the engine of a passenger train on the Charlotte branch of the New York Central & Hudson River Railroad ran off the track in Rochester, N. Y., blocking the track an hour.

On the morning of the 3d several cars of a freight train on the New York Central & Hudson River Railroad were thrown from the track at Cazenovia, N. Y., blocking the two tracks for an hour.

On the afternoon of the 3d several cars of a freight train on the Buffalo, New York & Philadelphia road were thrown from the track near Sonyea, N. Y., and two of them were somewhat damaged. Another accident was caused by this run-off.

On the night of the 5th the engine of a construction train on the Western North Carolina road jumped the track on a curve at the steep grade at Balsam Mountain Gap, N. C., and was badly wrecked. The engineer was slightly hurt. It is said that he was running down grade at a very high speed.

On the morning of the 10th several cars of a freight train on the Cleveland, Columbus, Cincinnati & Indianapolis road were thrown from the track near Winchester, Ind., blocking the road several hours.

On the evening of the 12th a special train on the Wabash, St. Louis & Pacific road ran off the track at Fort Knox, Ind. The caboose was wrecked, two trainmen and a man who was riding in the caboose were badly hurt.

On the afternoon of the 13th a car of a gravel train on the Delaware, Lackawanna & Western road ran off the track near Boonton, N. J., and upset, killing one laborer and injuring four others.

On the evening of the 17th seven cars of a freight train on the Chicago, Burlington & Quincy road ran off the track near Russell, Ia., doing some damage.

On the morning of the 19th a car of a freight train on the



Baltimore & Ohio road was thrown from the track at Jessup's Cut, Md., blocking both tracks for several hours.

On the evening of the 21st the engine of a freight train on the Chicago & Northwestern road ran off the track in Mendota, Wis., and upset, killing the engineer.

On the morning of the 23d several cars of a freight train on the Philadelphia & Reading road ran off the track near Reading, Pa., and were somewhat damaged.

On the evening of the 23d the engine of a construction train on the Western North Carolina road ran off the track near Waynesville, N. C., and upset. The fireman was caught under the engine and crushed to death.

On the morning of the 25th a yard engine on the Boston & Albany road jumped the track in the yard at Worcester,

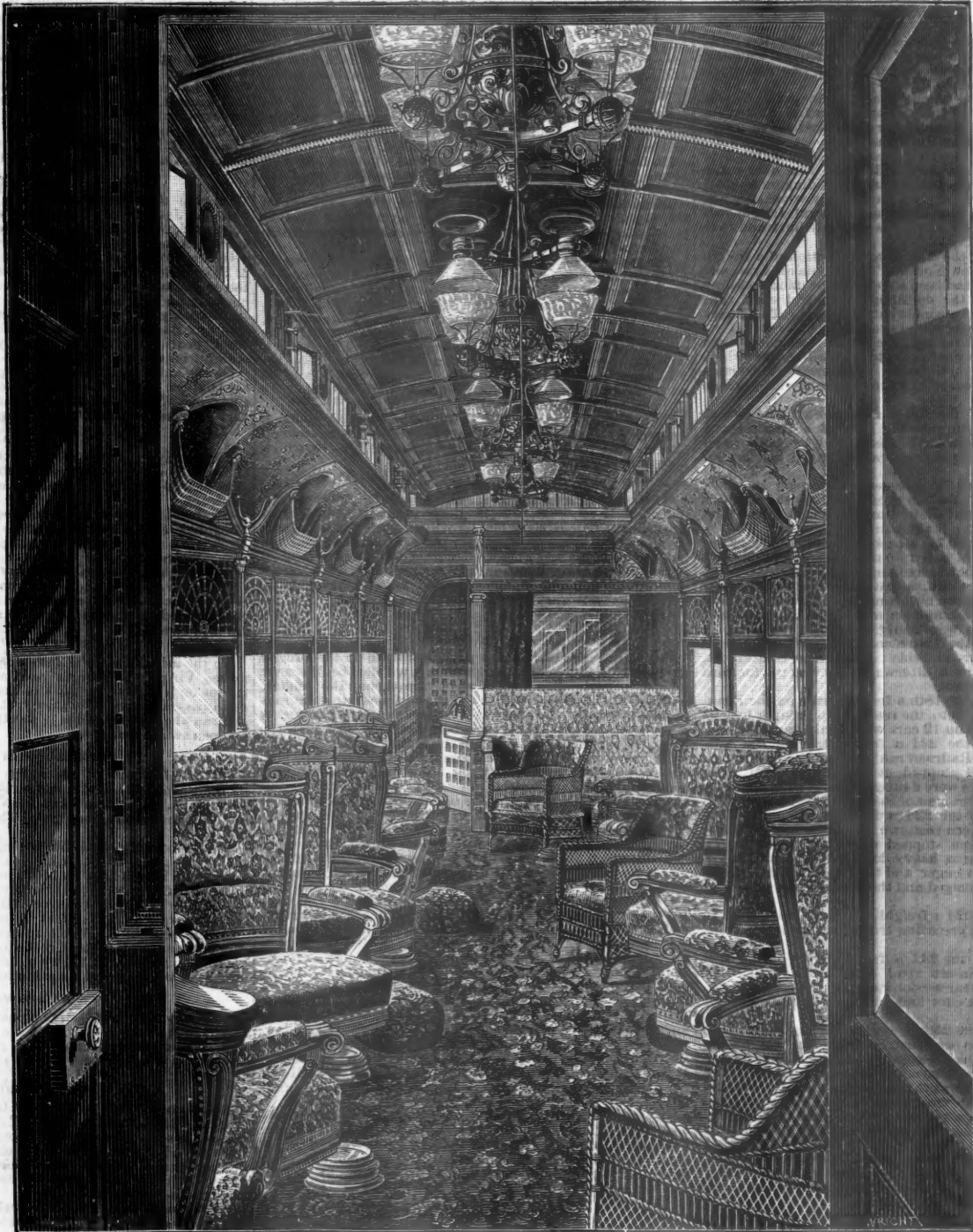
high Valley Railroad was starting to run light from Glen Summit to White Haven, Pa., having just taken a long coal train up the grade, the boiler exploded. The force of the explosion was upward and backward, the rear end of the boiler being torn out and the fire-box thrown over 100 ft. away. There were at the time four men on the engine, the engineer, fireman, a brakeman and a telegraph operator, all four of whom were instantly killed, leaving no one who could give any particulars of the explosion.

On the morning of the 28th a switching engine on the Cleveland, Columbus, Cincinnati & Indianapolis road exploded its boiler just as the engineer had started it in the yard at Cleveland, O. The engine was torn to pieces and several heavy pieces of iron from the boiler were thrown 200

The engine was badly damaged and the steps were torn off, several of the cars, but none left the track.

On the afternoon of the 6th a passenger train on the Ulster & Delaware road when near Mount Pleasant, N. Y. struck a large rock which had rolled down into the ditch in a cutting. The train was not thrown from the track, but the car steps were stripped from all the cars on one side and a number of axle boxes were broken by striking against the stone.

On the morning of the 23d, as a work train on the Denver & Rio Grande road was passing through Black Cañon, west of Gunnison, Col., a spark from the engine ignited a box of giant powder. A terrific explosion followed, wrecking all the cars of the train and damaging the engine badly. There



BAY-WINDOW PARLOR CAR, PENNSYLVANIA RAILROAD.

Mass., doing some damage and obstructing both the main tracks for about two hours.

On the morning of the 31st the engine and several cars of a freight train on the New York Central & Hudson River road were thrown from the track near Corfu, N. Y., blocking the two tracks for several hours.

#### OTHER ACCIDENTS.

On the afternoon of the 18th the engine of a construction train on the Western North Carolina road exploded its boiler while standing on the track near the Tuckasegee River, N. C. The engine was completely destroyed. The engineer and a convict laborer were instantly killed, the fireman and two brakemen and two convicts badly scalded. The cause of the explosion is unknown.

On the morning of the 25th as a pusher engine on the Le-

ft. away, one of them wrecking a switchman's shanty. The engineer was badly scalded. The fireman was blown 40 ft. in the air, but landed in a bank of mud and was only very slightly hurt. The engineer claims that there was plenty of water in the boiler just before the explosion.

#### BROKEN COUPLING ROD.

On the morning of the 22d as a special passenger train on the Pittsburgh, Ft. Wayne & Chicago road was near Plymouth, Ind., one of the coupling rods on the locomotive broke and the loose end damaged the engine badly, tearing up one side of the cab and injuring the engineer seriously.

#### MISCELLANEOUS.

Early on the morning of the 5th a passenger train on the Central Railroad of New Jersey struck a large rock which had fallen on the track in a cut near Glen Gardner, N. J.

were some 40 workmen on the train, of whom 3 were killed at once and 27 others more or less hurt, most of them seriously.

#### SUMMARY.

This is a total of 89 accidents, in which 25 persons were killed and 142 hurt. As compared with July, 1883, there was a decrease of 30 accidents, of 32 killed and of 63 injured. A fuller statement of the totals and averages will be found on another page.

The seven months of the current year to the end of July show a total of 696 accidents, 220 killed and 1,065 injured, being a monthly average of 99 accidents, 31 killed and 152 hurt. July was below the average in all respects.



### Bay Window Parlor Car, Pennsylvania Railroad.

The accompanying illustration represent a parlor car of an entirely novel design, which has been lately built at the Altoona shops of the Pennsylvania Railroad.

It will be observed from the plan of the car that the sides are not straight and parallel as usual, but form a series of bays, from the windows of which a more extended view can be obtained than through the car window as ordinarily constructed, as a person comfortably seated in the car can see nearly dead ahead. We understand that the details relating to this method of constructing a car have been patented by Mr. Bruce Price, the well-known New York architect, who also designed the very artistic ornamental work of the car.

The joiner work in the interior of the car is constructed wholly of American quartered white oak, stained to resemble old English oak in tint. The ceiling is handsomely paneled, consisting of coarse canvases lightly covered with a single coat of red-brown paint, through which the texture shows, making a very pleasing effect. The decoration consists simply of brass-headed nails of various sizes, arranged in groups in alternate panels.

Over each window is a semi-circular panel of spindle work of light and handsome design.

The antique basket work parcel pockets are marvels of the brass-worker's skill, and being recessed into the sides of the car, are of considerable capacity.

The chairs are upholstered in jute and silk brocade, and are arranged to support the small of the back, a point often overlooked by those who build car seats. The chairs rest on turned reeded brass pedestals, the disagreeable, oscillating movement (which sometimes produces a species of seasickness) being obviated by the addition of two legs let into the back part of the seat frame. The chair is thus completely steadied. The support to the chair arms is so arranged that the thigh can pass under the front, giving additional room and adding to the comfort of the tired traveler who desires a change of position. The chair feet are terminated by balls of rubber, which slide easily over the floor when the empty chair is swung round.

The floor is covered with a rich Wilton carpet with a brown background, containing small antique figures of dull green.

The rattan chairs are portable, so that groups of three may cluster about a single bay window when they desire.

The clear-story windows are of peacock green pressed glass molded in artistic shapes, and closely resembling cathedral glass. The effect of the light passing through this glass is very pleasing to the eye. Adjoining the rear entrance is a smoking room of convenient size, the partitions cutting it off entirely from the remainder of the car.

The compartment is separated from the main saloon by a partition of paneled oak about 30 in. high, containing an artistic gate swinging both ways. At the corner, a fluted oaken pillar, surmounted by a capital ornamented with old brass, supports the ends of the two rods, upon which handsome drapery is hung, making the compartment entirely private when desired. This low partition and door form the background in our interior perspective view. It will be noticed that the curtains are shown partly drawn, and that a mirror on the partition dividing the compartment from the smoking-room beyond is visible between the curtains. Our view is taken from the vestibule, and shows the main features of the parlor or main portion of the car very distinctly.

The car is provided with a Baker & Smith heater, two water-closets, flushed from overhead tanks, a wash-stand, water-cooler, etc.

The six-wheel trucks carrying the car have Allen paper wheels, and have been specially designed to promote easy riding. The amount of steel which is usually contained in three elliptic springs is distributed among four, making the axle-boxes about 6 in. further apart than is ordinarily the case.

The exterior of the car is painted the Pennsylvania Railroad standard Tuscan red. "Parlor Car" in gilt letters is inscribed on the side, and a similar inscription on each side of both ends near the hand rail prevents the passenger from taking the wrong kind of car. The car is numbered 901 and will seat 37 persons.

### The Philadelphia Electrical Exhibition.

The following general code for the conduct of measurements, tests and reports, which embraces the different sections into which the members of the Board will be divided, has been adopted.

First. The following code shall be considered binding upon the examiners and exhibitors concerned.

Second. Examiners who may be commercially interested in any class of articles shall not serve as examiners in that class; and also shall not serve if, prior to the investigations, proper objection be made by any exhibitor concerned.

Third. If time permit, tests undertaken will not be abridged, nor will withdrawals from tests be allowed.

Fourth. Quantitative tests shall, as far as possible, be made by methods which allow of a proper checking of results, and all codes or schemes for tests shall be approved by the Board of Examiners.

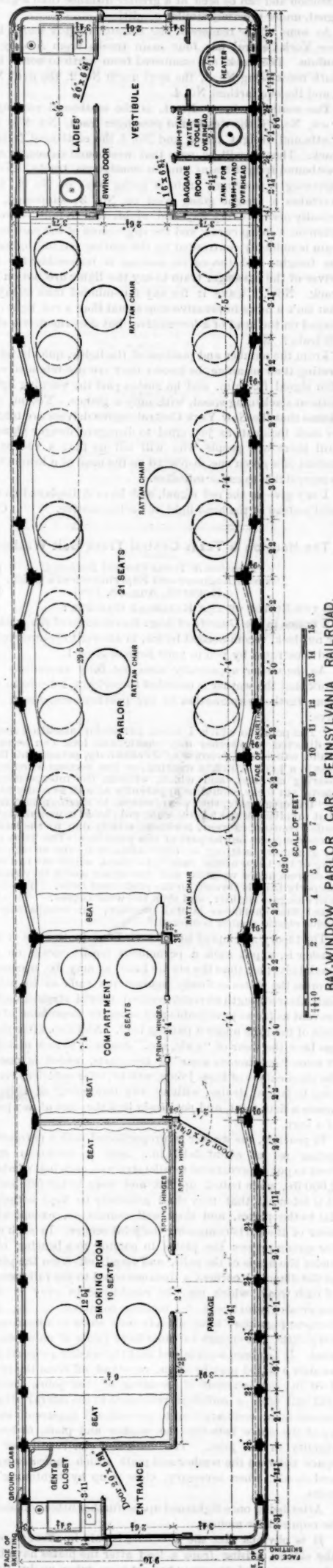
Fifth. All parties making application for tests thereby bind themselves to acquiesce, without appeal, in the results of the tests.

Sixth. Reports of the results of tests and examinations made by the several sections of the Board of Examiners shall, as far as practicable, include details of methods used and experiments made, and the reports of the same shall be signed by a majority of the members of the section.

Seventh. All rough notes and original records shall be carefully preserved and no erasures made.

Eighth. Complete records of the work done by the examiners shall be rendered to the Board of Managers of the Franklin Institute, and all publications of results shall be made by authority of said Board.

Ninth. The reports of the Board of Examiners shall take



the place of the usual awards and premiums. These reports, therefore shall be based either upon quantitative or qualitative tests, and no reports shall be made by examiners on exhibits not so examined.

Tenth. Exhibitors and those applying for tests shall com-

municate to the Board of Examiners such descriptions and drawings as may facilitate the labors of the Board, together with statements of claims as to meritorious points of exhibits. They shall also make such necessary attachments and connections as may facilitate the labors of the Board, and shall provide the materials or labor necessary in operating their devices.

Eleventh. The following are constituted sections of the Board of Examiners:

### SECTIONS OF THE BOARD OF EXAMINERS.

- I. Dynamo-electric machines for lighting.
- II. Dynamo-electric machines for plating.
- III. Dynamo-electric machines for miscellaneous purposes.
- IV. Dynamo-electric motors and transmission of energy.
- V. Arc lamps.
- VI. Carbons for arc lamps.
- VII. Incandescent lamps.
- VIII. Photometric measurements.
- IX. Dynamometric measurements.
- X. Boilers.
- XI. Steam engines.
- XII. Gas engines and other prime motors.
- XIII. Apparatus for high electro-motive force. 1. Lightning protection; 2. Electro-static induction machines and induction coils; 3. Igniters.
- XIV. Voltaic-electric apparatus. 1. Voltaic batteries and accessories; 2. Polarization and storage batteries.
- XV. Electro metallurgy.
- XVI. Thermo and magneto-electric apparatus.
- XVII. Electric conductors. 1. Telegraph and telephone wires and cables; 2. Electric light and power circuits; 3. Submarine cables.
- XVIII. Underground conduits.
- XIX. Electric telegraphs. 1. Morse system; 2. Printing telegraphs; 3. Duplex, quadruplex, multiplex and harmonic systems.
- XX. Telephones, microphones and radiophones.
- XXI. Fire and burglar alarms and annunciators.
- XXII. Electro-signal and registering apparatus.
- XXIII. Electro-therapeutic apparatus.
- XXIV. Electro-dental apparatus.
- XXV. Application of electricity to musical apparatus.
- XXVI. Applications of electricity to artistic effects and art productions.
- XXVII. Applications of electricity to warfare.
- XXVIII. Instruments of precision.
- XXIX. Educational apparatus.

The following are the names of some of the examiners: Professors—M. B. Snyder, Philadelphia Central High School; Wm. A. Anthony, Cornell University; C. F. Brockett, Princeton College; Gould A. Bull, U. S. Navy; Henry S. Carhart, Northwestern University; Charles R. Cross, Massachusetts Institute of Technology; John B. DeMotte, De Pauw University; J. E. Dentan, Stevens Institute of Technology; Amos E. Dolbear, Tufts College; Charles H. Fisher, Massachusetts Institute of Technology; Wm. E. Geyer, Stevens Institute; Wm. H. Harding, Lehigh University; Wm. H. Harkness, U. S. Naval Observatory; C. S. Hastings, Sheffield Scientific School; S. P. Langley, Allegheny Observatory; Gaetano Lanza, Massachusetts Institute of Technology; Wm. D. Marks, University of Pennsylvania; T. C. Mendenhall, Ohio State University; Mansfield Merriam, Lehigh University; Henry Morton, Stevens Institute; Simon Newcomb, Nautical Almanac Office; F. C. Nipher, Washington University; H. A. Rowland, Johns Hopkins University; B. F. Thomas, Ohio State University; R. H. Thurston, Stevens Institute; Leonard Waldo, Yale College; J. Burkhitt Webb, Cornell University.

Mechanical Engineers.—A. V. Abbott, George H. Barnes, Boston; Carl O. Herring, Washington Jones, W. Barnet Le Van, J. H. Linville, John Nystrom, Philadelphia; T. W. Rae, New York; Horace W. Sellers, S. Lloyd Wiegand, Philadelphia.

Electrical Engineers and Electricians.—David Brooks, Philadelphia; Chas. L. Clarke, New York; Dr. Chas. M. Cresson, Philadelphia; N. S. Keith, New York; C. J. Kintner, Examiner Patent Office, Washington; Frank L. Pope, New York; W. J. Phillips, D. R. Walker, Philadelphia.

Col. Charles H. Banes, Director of the Exhibition; also Lieut. James Allen, Signal Service; President F. A. P. Barnard, Columbia College; Charles Bullock, Philadelphia; Dr. C. B. Dudley, Altoona, Pa., and A. E. Outerbridge, Chemists; Wm. P. Tatham, President; Emanuel Hildebrandt, Librarian, and Dr. Wm. H. Wahl, Secretary of the Franklin Institute; Dr. James H. Lloyd; Col. Wm. Ludlow, Chief Engineer of the Philadelphia Water Department; Lieut. James B. Murdock, Dr. Isaac M. Norris, Samuel L. Smedley, Philadelphia.

In the main exhibition building nearly all of the space has been assigned, except in the gallery, which extends around the building. This gallery, as originally constructed, was found to be too narrow, and a few days ago it was extended eight feet further out. Its strength was also increased by extra heavy girders.

The exhibits are coming in constantly, and workmen for the exhibitors are busily engaged in putting up machinery, counters, etc. The lines of shafting are going up around the building, and pulleys are rapidly being put in place. A large Buckeye engine, made by the Kensington Engine Works, two Worthington pumps and two Straight Line engines from Syracuse, N. Y., are already in position.

### Contributions.

#### Receiverships.

TO THE EDITOR OF THE RAILROAD GAZETTE:

Your republication of Mr. C. Stuart Patterson's interesting article on "The Law of Railway Receivers" is extremely opportune. The startling fact that the share capital and debt of the companies that have within the brief space of twelve months passed into the protection of courts through receiverships exceed \$550,000,000 must at once arrest the attention of every investor in railway securities. It is, however, to the last degree improbable that a similar condition of affairs can soon again occur. After quoting not less than 38 important decisions, Mr. Patterson comes to the conclusion that "it is the clear result of the authorities that the decree of the event authorizing the certificates is conclusive as to the propriety of their issue, and binding upon all parties interested, who, having had, either actually or constructively, their day in court, have not objected."

To this it has been already replied through the public press. "That parties in interest do not know in advance when application will be made for authority to issue certificates and hence cannot have their day in court to object." But there is a far more important phase of this matter to be



considered, and that is the manner in which the receivers themselves are appointed in the first place. The recent scandals in this connection are notorious. It is, of course, self-evident that the managers of a railway must be the first persons to become cognizant of the probable necessity for legal protection, and it is, as a rule, entirely at their suggestion that the suit is brought by means of which the property is placed in *custodio legis pendente lite*. An action of this sort is not only friendly, but it is collusive. In the case of every important line, there are always rival parties contesting for possession, the insiders having obviously the vantage ground. The fees of the receivers amount in some cases to a moderate fortune, and, whilst they may serve as an incentive to the appointment of such an officer, cannot be supposed to operate as a reason for speedily restoring the property to the stockholders. There can be no doubt that the appointment of the boards of railroad commissioners in the various states will in time clear away much of the uncertainty that now exists as to the necessity of the appointment of receivers in given cases, and it is suggested here that the appointment by the court might well be made subject to the approval of the state commissioners. In some states statutes have already been enacted under which railroad receivers may be appointed, and it would seem from a business point of view that this is the proper mode of procedure. In cases where it is not only necessary to preserve the existing property, but also to go forward and purchase additional rolling stock or complete unfinished lines, and the income is insufficient for the purpose, a law judge must necessarily rely on the statements of the receiver whom he has appointed, and will naturally give full credence to them. It may thus happen that in authorizing the issue of certificates for the payment of new liabilities, the trust may be gravely abused. But whether the appointment of a receiver be made by a court of chancery or under a special statute, it seems clear that the time has now arrived when it should be made subject to the confirmation of some competent and disinterested authority, at least analogous to the state railway commission. The excellent report of the New York State Commission for 1883 bears ample evidence that the statements of the railway companies are not to be passed upon in a perfunctory manner, and so far as New York state is concerned, the commissioners are evidently capable of prescribing a form of report that will reveal and keep constantly before the public the true inwardness of the most refractory corporation. The remarkable discrepancy existing between the various eminent authorities quoted by Mr. Patterson as to the proper limit of a receiver's functions cannot fail to strike the attention of even the casual reader.

MOTOR.

#### Criticism of the Proposed Uniform Signal Code.

ILION, N. Y., Aug. 25, 1884.

TO THE EDITOR OF THE RAILROAD GAZETTE:

As I am a reader of the *Gazette*, and take considerable interest in railroad matters, particularly anything relating to the train service, I read, some time since, the proposed revised code of uniform train signals, and since, with considerable interest, the various criticisms of the same. As the criticisms seem to be about exhausted without bringing out two or three points which I think important, I will try to add a few words in that line in order to keep the ball rolling, and, I hope, bring out further criticisms from others.

And in this connection I must say I fully agree with "Senex," in a recent issue of the *Gazette*, that "the adoption of the green, instead of the red signal, indicating an irregular train following, is a bad substitution." I know the argument was that the signal should be one of caution to a train approaching from the opposite direction, instead of the danger (stop) signal. Still that does not change my opinion, and I can conceive of but few situations where a danger signal is more necessary than in case of two trains approaching each other on the same track, and running in opposite directions.

Again, it is argued that an engineman should not be called upon to pass a red signal displayed in a conspicuous position, as he must necessarily do when meeting a train with such signal displayed on the head of the engine, as it loses its full force as a danger signal when it sometimes means danger (stop), and sometimes he is allowed to pass it. According to such reasoning, any red signal conspicuously displayed is a danger signal and must not be passed; yet every one knows that every time an engine driver runs over his route he is called upon in numerous ways and instances to use his own judgment in this very matter.

What is it, then, that enables the engineman to discriminate between a red signal which means danger and a red signal which does not mean danger? Some one will say the position of the signal! Very good. Allowed.

Now, let me ask that person, is a red light displayed on the head of an engine any more of a danger signal, and does it require any greater amount of brains to interpret it correctly than a red semaphore, which displayed in one position means danger (stop), and with a slight change in the position of the same means safety (line clear).

Certainly, neither I nor any one else would ask an engine-driver to disregard a red light displayed between the rails of the track on which he was running; but no one can for an instant imagine there is one among the intelligent class of men who drive locomotives with not sufficient intelligence to interpret a red signal displayed on the head of an engine as readily and correctly as a green signal displayed in the same position. Furthermore, every one who has had any experience in such matters knows that a red flag in the day time and a red light at night is much more liable to attract

attention and can be seen at a greater distance than a green signal, under precisely similar conditions.

As some of the readers of the *Gazette* already know, the New York Central has four main tracks from Albany to Buffalo. The tracks are numbered from south to north, the south track being No. 1, the next north No. 2, the next No. 3, and the one farthest No. 4.

The south track, or No. 1, is the eastbound passenger track, No. 2 is the westbound passenger track, No. 3 is the westbound freight track, and No. 4 the eastbound freight track. Thus it will be seen that westbound passenger and westbound freight trains run on contiguous tracks. Now, supposing a passenger train is going west on No. 2, and overtakes a freight going west on No. 3; supposing, as actually occurs every day and night, the freight is overtaken on a sharp curve, and the engineman of the passenger train is suddenly confronted by the glaring red tail lights of the freight, and the curve making it impossible for the driver of the passenger train to say the lights are not on his track. Now, I leave it for any fair-minded man to say if that isn't a more imperative stop signal than a red light displayed on the head of a locomotive; but does the driver stop his train? No.

From the number and position of the lights, quickly interpreting their meaning, he knows they are not intended as a stop signal for him, and he rushes past the warning lights without slackening speed, with only a glance. Yet no one claims that the New York Central engine drivers are taught by such incidents as just cited to disregard danger signals. Still there are people who will tell us that a red light, instead of a green one, displayed on the head of a locomotive is more liable to cause mistakes.

I say give us the red signal, and have it displayed on the pilot instead of the head-light of the locomotive. C.

#### The Houston & Texas Central Track-Bolt Washer.

Houston & Texas Central Railway.  
Division Engineer and Superintendent's Office,  
HOUSTON, Aug. 18, 1884.

TO THE EDITOR OF THE RAILROAD GAZETTE:

I notice in the *Gazette* of Aug. 8 a criticism of the washer, or nut-lock, recommended by me, in answer to your circular, and illustrated by you in your issue of Aug. 1.

As the writer apparently does not fully appreciate the work that the washer is intended to perform, I desire to add some further explanation to my previous statement. He says:

"The point to which I think particular attention should be directed is whether any elastic nut lock can be made which will secure, because of its elasticity, permanent firmness in a joint which is wearing, or has become worn at its bearing surfaces, and which, without the interposition of elastic nut locks, would be apparently as well as really loose. Unfortunately, this wear, which, to distinguish it from that involved in the loss of scale, etc., from new material, is called continuous wear, is almost wholly due to the lack of proper support on the part of the joint ties. The joint ties, by gradually settling in their beds, or by the uneven cutting of the bases of the rails into them, allow the rail ends to depress under weights, and the strain which they should properly bear is thrown on the plates and bolts. The bolts will elongate slightly, and then the wear begins. To withstand this enormous lateral pressure, the comparatively feeble elastic washer is offered."

The theory attempted to be carried out in the use of this washer is, to put such a permanent tensile strain on the track bolts (less than the elastic limit) as may be necessary to press the plates so firmly against the rails as to utilize fully their strength to resist vertical lateral strains, and to prevent as far as practicable any separate depression of the ends of the rails under a passing load. And also, after there has been the wear of "scale, etc.," common to new material or some "continuous wear" of the parts, which is one of the chief causes of loose joints, still to offer sufficient resistance to lateral strains, without any tightening of bolts to insure a firm joint, and positively lock the nut at any point of a turn.

In practice, the washer is proportioned with a permanent spring set of about 5-16 in., and a thickness sufficient to put a (permanent tensile) strain on each bolt of about 2,000 lbs. when bolted up flat and snug to the fish plates. It is intended that they shall generally be kept bolted up flat to the plates, and they will remain so, except when wear of the parts composing the joint occurs. In such case the spring presses the plates in coming to a bearing close under the heads of the rails, and stands off from the plates at the diagonal corners a distance equal to the full amount of such wear, which may be considered to vary in new materials from next to nothing to about 1/8 in., and in fastenings that have already been worn to a bearing as very little, but enough to cause loose joints if no washer is used. It has been ascertained that the washer proportioned as above stated may be open, or stand off from the plates 1-16 in., on account of wearing of the joint, and it will still offer a sufficient resistance to the lateral strains caused by an ordinary load to prevent any apparent closing up of the space between the washer and plate, or loss of rigidity in the joint. The trackmen can readily see the space between the washer and plate which indicates wear, and should, when necessary, close it up by tightening the bolts.

After being once tightened up, no further attention should be required for months.

It is obvious that the elasticity is only in effect to resist the strains arising from a load after the plates have been some worn, and the wear has not been taken up by tightening the bolts, and that the washer is no "feeble" affair, as it can readily be made stiff enough to strain the bolts beyond their capacity.

M. G. HOWE.

[The question raised in this discussion is too large a

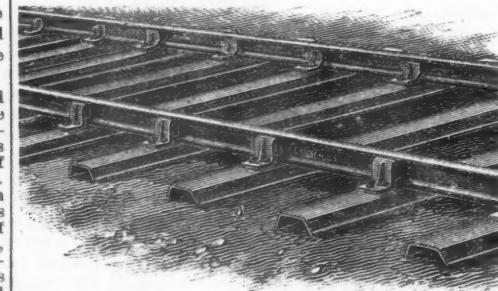
one to attempt to discuss in a foot-note, and any such discussion is postponed until further data can be presented. It may be noted now, however, that the weak point in a fish-plate is undoubtedly inequality of wear—greatest near the centre, tapering out towards the end—which finally increases to such a point, especially on double-track roads, that the fish-plate is no longer serviceable, since no amount of tightening of bolts can bring it to a firm, even bearing. To prevent this, or at least delay it as long as possible, the first necessity is to prevent the beginning of wear; and a joint may be so loose as to permit very considerable motion and friction when under load without its being at all possible to "readily see" or even see at all a "space between the washer and plate which indicates wear," after the strain has been removed.

It would seem therefore as if our former correspondent had the right of it, unless the nut-lock shown in the *Railroad Gazette* of Aug. 1 not only "can be made" but actually is made "stiff enough to strain the bolts beyond their capacity." The form of nut-lock shown, although considerably stiffer than the Verona, to which general class it belongs, certainly does not appear to be stiff enough to throw even a strain of 2,000 lbs. each upon the bolts, which would seem quite insufficient for the required purpose; and failing stiffness approximately equivalent to the strength of the bolt, is it not true that it is a defect and not a merit in a nut-lock to make a joint seem tight to the eye and the ear when it is not?—EDITOR RAILROAD GAZETTE.]

#### Steel Railroad Ties.

In reply to a query on this subject, Mr. F. W. Webb, Chief Mechanical Engineer, London & Northwestern Railway, England, writes us: "We have laid over 20,000 sleepers in steel, and are now making a further quantity for laying next year."

The accompanying cut shows this form of permanent way.\*



Steel Railroad Ties.

The 84-lb. bull-headed rail is gripped by two half chairs, stamped out of a steel strip and riveted to the tie, a sheet of creosoted paper being interposed to deaden noise and vibration. A compressed wooden key is used, and is kept in place by expanding into an internal groove in the chair. We understand that each tie weighs about 100 lbs., and that their cost in England is about the same as that of the usual style of soft wood tie. Should steel remain at its present price it seems probable that it will be the cheaper as well as the more durable material for ties not only in England and Germany, but in many of the Southwestern states.

#### Train Dispatchers' Association.

The first convention of the Train Dispatchers' National Association assembled at the Opera House, in Louisville, Ky., at 10 a. m. on Aug. 20. About 150 delegates were present, most of them representing local associations which have already been formed. The representation from the west and south was larger than from eastern roads. The convention was called to order by Mr. A. J. Frazier, of the Local Committee, and Mr. William Marshall, of Louisville, was chosen temporary Chairman, with Mr. W. W. Wheatley, of the Chicago & Northwestern, as temporary Secretary. Committees were then appointed as follows:

**Constitution and By-laws.**—V. H. Stevens, W. M. Eggleston, C. H. Smith, W. W. Wheatley, J. W. Ravelin and Isaac E. W. Mack.

**Organization.**—H. R. Dill, M. H. Cook, H. Rogers and W. W. Collins.

**Resolutions.**—E. Y. Young, M. Polk, R. B. Wooley, G. G. Evans, W. F. Lord, R. T. Watts and W. N. McMahon.

The convention then adjourned until the next day, to give the committees an opportunity to perform their work. In the afternoon, on the invitation of the Louisville & Nashville Co., the delegates took an excursion to see the new bridge which is being built across the Ohio. In the evening they were treated to a moonlight excursion by the Local Committee.

On the second day, in consequence of the Committee on Constitution and By-laws not being ready to report, the morning was devoted to reading papers and short addresses, a very interesting one on the subject of train dispatching being received from E. A. McKenna, of the Jeffersonville, Madison & Indianapolis.

At the opening of the afternoon session the committee presented the constitution and by-laws, which were adopted without any material alteration, and the name was given as "The American Train Dispatchers' Association," to include Mexico and Canada. The membership fee was placed at \$3 and annual dues at \$3. The officers determined on were: President, vice-president, secretary and treasurer, and an executive committee of seven. The salary of the Secretary was placed at \$800 and train dispatchers were given till Nov. 1 to pay their dues and become charter members. The idea of establishing divisions and local associations was

\* See also *Railroad Gazette* for April 13, 1883



not favorably considered and no action on the subject was taken.

The election of officers took place as follows: President, W. N. Marshall, Louisville. Vice-President, W. W. Wheatley, Chicago. Secretary and Treasurer, Isaac H. McEwen, Buffalo. Executive Committee, J. G. Hartigan, Chicago, Milwaukee & St. Paul; Hugh Daily, Michigan Central; W. F. Larimer, Denver & Rio Grande; J. Fitzsimmons, Texas & Pacific; H. R. Dill, Chesapeake & Ohio; H. M. Forristall, Eastern, Boston; J. W. Ravelin, St. Louis & Cairo. The convention then adjourned till next day.

The third day's session was comparatively short. After the convention had been called to order, the Committee on Resolutions presented its report, including the usual resolutions of thanks to the local committee and other parties extending courtesies to members. A resolution was passed authorizing the President to appoint a committee to prepare a system of train orders, rules and signals, to be presented to the next convention for discussion. After concluding the routine business, the Association adjourned to meet in Denver, Col., on the third Tuesday in June, 1885.

#### Southern Railway & Steamship Association.

A meeting of the Executive Committee is called to meet at Louisville, Ky., on Monday, Sept. 1. At that meeting the form of "North-bound Merchandise Bill of Lading," submitted with circular letter No. 51, will be discussed, and its adoption acted on.

The condition of the Atlanta and Macon cotton pools will also be discussed, and it is hoped some satisfactory arrangement in relation thereto made.

In this connection the General Commissioner gives a copy of a letter received on this subject (and already published) from Vice-President and General Manager Henry Fink, of the East Tennessee, Virginia & Georgia Co., as follows:

"I will thank you to notify all parties interested, that after Sept. 1 of the present year, the East Tennessee, Virginia & Georgia Railroad Co. will no longer be a party to the cotton pools now existing at Atlanta and Macon."

In response to the circular inclosing this notice the following was received from General Manager J. W. Green, of the Georgia Railroad:

"I am in receipt of yours of the 8th inst. inclosing a copy of Mr. Henry Fink's letter, giving notice that after Sept. 1 the East Tennessee, Virginia & Georgia Railroad Co. would no longer be a party to the cotton pools now existing at Atlanta and Macon."

"I do not think that any line can consistently withdraw from the pool before the close of the Association year, viz., Dec. 31, 1884."

"The Central and the Georgia Railroad companies received a practical lesson on the subject last year in the Atlanta & West Point Railroad case. (See Circular Letter No. 24, Series 1883-84.) The Board of Arbitration held that the action of the companies named in withdrawing the business of the Atlanta & West Point Railroad from the General Pool before Jan. 1 was violative of the agreement, and they were required to rectify the wrong unwittingly committed."

"Are circumstances so changed as to make proper, on Sept. 1, 1884, that which was considered altogether wrong on Sept. 8, 1883?"

The following letter was also received from President Raoul, of the Central Railroad & Banking Co., of Georgia:

"I have your circular conveying Mr. Fink's notice of withdrawal from the Atlanta and Macon cotton pools Sept. 1."

"I beg to remind you that, about this time last year, the Central Railroad withdrew certain lines from the pool, taking effect Sept. 8 of last year. This was objected to, and an arbitration decided that we had no right to withdraw from the pool till the close of the year for which we had agreed, by contract, to maintain the rules and laws of the Association."

"This, I think, fixes the matter conclusively, that no company has the right to withdraw during the Association year, and I beg to notify you, and through you the parties interested, that we expect this Association to protect its agreement with all parties till the expiration of the present year, for which we are under contract, to wit: Jan. 1, 1885."

The question of differences of rates of freight on compressed and uncompressed cotton will also come up, having been referred to the Executive Committee from the Rate Committee.

The following is an extract from the record of the thirty-seventh session of the Rate Committee:

"The question of Cotton Rates being taken up, Mr. Haas moved that rates on compressed cotton be 6 cents per 100 lbs. higher than when not compressed, the carrier paying for compressing."

"A vote being taken, the motion was lost. Mr. Haas demanded that this question go to the Executive Committee."

The General Commissioner will, also, if practicable, submit a plan for pooling and dividing the business from interior eastern points, as referred to at the last meeting of the Executive Committee.

#### TECHNICAL.

##### Locomotive Building.

The Portland Co. in Portland, Me., last week turned out the last of a lot of six locomotives built for the Eastern Railroad.

##### Car Notes.

The shops of the Central Railroad, of Georgia, in Macon, Ga., have recently completed two cars for the use of the roadmasters of the Savannah and the Southwestern divisions. The cars are substantially finished and well arranged, each containing a sitting room, office, bed-room, kitchen and wash-room. They were designed by President Raoul, who was at one time Road-master of the Central.

The Ohio Falls Car Works in Jeffersonville, Ind., last week delivered three first-class passenger cars to the Louisville, Evansville & St. Louis road. They complete an order for five cars, and are very handsomely finished.

The Chicago, Burlington & Quincy shops in Aurora, Ill., have recently turned out 12 light passenger cars intended for the suburban trains out of Chicago.

##### Bridge Notes.

The Boston Bridge Works are building a new railroad bridge for the Boston & Maine road at Biddeford, Me., and are just finishing the iron work for a bridge over the Connecticut River near Greenfield. They have also orders for a bridge over the Seekonk River at Providence, R. I., and for some iron trestle work for the Boston & Lowell road, besides a number of small orders.

The Keystone Bridge Co. in Pittsburgh has taken a contract to build a new iron bridge over the Wabash River for the Logansport Division of the Terre Haute & Indianapolis road. It will have five spans of 115 ft. each.

##### Iron Notes.

The Union Rolling Mill Co., of Cleveland, O., has put its Emma Furnace into blast.

Clinton Furnace in Pittsburgh, belonging to Graff, Bennett & Co., has been put into blast after a short stoppage.

The Mahoning Valley Iron Co. of Youngstown, has been fitting up the old Ward Mill at Niles, O., and expects to begin making sheet iron there in a short time.

The Sharon Iron Co., in Sharon, Pa., will start up its rolling mill very shortly. The company's blast furnace has been banked up and will remain so for some time.

The mill of the Nes-Silicon Steel Co., in Sandusky, O., has been sold to the American Pneumatic Co., of Chicago, and will be turned into a mill for the manufacture of bar iron.

The works of the Saucon Iron Co., at Hellertown, Pa., were to have been sold at Sheriff's sale Aug. 16, but no bidders appeared and the proceedings were consequently stopped.

The Shenandoah Iron Co. has put its Gem Furnace at Milnes, Page County, Va., into blast, and it is now making about 90 tons of iron a day.

Schoenberger & Co. in Pittsburgh are about to tear down one of their blast furnaces and replace it with a new one which will make 100 tons of iron a day. They are now going extensively into the manufacture of steel nails.

#### Manufacturing Notes.

The Armington & Sims Engine Co. in Providence has been running extra time and has orders ahead which will take some time to fill. The company has a number of special engines to build, including several for the government and two double engines to run the electric lights on the steamboats "Bristol" and "Providence" of the Old Colony Steamboat Co. It is also building seven engines to run the electric lights of the Louisville Exposition and will have engines on exhibition at the Electrical Exposition in Philadelphia.

#### The Rail Market.

Steel Rails.—Quotations continue at \$27@28 per ton at mill, with sales of some 40,000 tons reported. It is said that orders have been taken as low as \$26, but exact figures are not easily obtained. One sale of 10,000 tons is reported to have been made at \$31 delivered at East St. Louis, which would net the mill from \$26.50@27. Some heavy orders are reported under negotiation, and mills willing to take work at present prices can probably keep busy.

Rail Fastenings.—Prices are unchanged nominally, but the market is very weak and it is not easy to give the rates at which actual sales are made.

#### British Rail Exports.

For the month of July and the seven months then ending, the exports of iron and steel rails from Great Britain to the United States and to all countries are reported as follows by the Board of Trade:

	To United States:			Seven months—		
	1882.	1883.	1884.	1882.	1883.	1884.
Iron rails .....	46	.....	.....	20,613	2,369	.....
Steel rails .....	18,700	5,547	4,135	119,434	35,403	14,836
Total .....	18,746	5,547	4,135	140,047	37,802	14,836
To all countries:						
Iron rails .....	2,417	2,279	2,306	36,013	18,570	9,628
Steel rails .....	74,878	64,071	55,872	432,697	456,024	749,690
Total .....	77,295	66,350	58,178	468,710	474,594	359,318

The exports to this country continue very small, yet larger than in any previous month of this year and more than the total for the three months ending with June.

For the seven months they were 60 per cent. less than last year, nearly 90 per cent. less than in 1882 and 1880, and 92 per cent. less than in 1881.

The exports to countries other than the United States, which were large in the early months of the year, and became quite small later, were not very small in July, being 54,043 tons, against 60,803 last year and 59,049 in 1882; but for the seven months there is a marked decrease from last year—from 328,633 tons in 1882 and 436,792 in 1883 to 244,482 this year. The largest takings this year have been by Australasia, East India, the Argentine Republic, Canada and Brazil. In July the largest exports were to Canada.

#### American Association for the Advancement of Science.

Prof. J. Burdett Webb, Secretary of the Mechanical Section (D) of the American Association for the Advancement of Science, requests that abstracts and titles of papers to be read at the coming meeting be sent to him as soon as possible. All communications should be sent to Prof. F. W. Putnam, Secretary of the Academy of Natural Sciences, in Philadelphia. It is suggested that at the meeting several sessions be devoted to papers on special subjects and the discussion of the same, and the following are mentioned as likely to prove of sufficient interest for at least one session each:

1. Standard bars, screw surfaces, etc., and their importance in the construction of machinery.
2. Modern applications of electricity from a mechanical standpoint.
3. Problems in civil engineering.
4. Methods of teaching mechanical engineering in technical schools.

Gentlemen who are interested in these subjects are requested to come prepared to take active part in the discussions.

The Secretary announces the following titles of papers to be read at the meeting as having already been received:

Annual address, by Pres. R. H. Thurston; two papers by Prof. W. A. Rodgers, of Cambridge, Mass., in connection with his work on standard bars, screws, etc. On the Manipulation of Optical Surfaces, J. A. Brashear, Pittsburgh, Pa. The Economy of the Electric Light, A. Stirling, New York City. The Giants' Causeway and Portrush Electric Tramway, with a working model of the same, W. A. Trail, Portrush Co., Antrim, Ireland. Three Problems in River Physics: I. Sediment versus Sand Bars; II. The Flow of Water in Natural Channels; III. The Relation of Levees to Floods and Low Water Navigation, J. B. Johnson, Washington University. Driven Wells, J. C. Hoadley, Boston, Mass. Belting, Gaetano Lanza, Mass. Inst. Technology. Method of Teaching in Mechanical Engineering, Geo. J. Alden, Worcester Free Institute. The Strength of Cast Iron, W. J. Millar, Glasgow, Scotland. Other papers by prominent gentlemen are expected, but not yet announced.

#### Washing Rails.

An English line has lately used a simple device for washing the road clean during dirty weather. A very small jet of water from the boiler is directed upon the rail in front of the driving-wheels. This arrangement has been found most efficient during the past winter, and also saves a considerable quantity of sand. A similar contrivance has often been used, but in a cold climate gives considerable trouble by coating the rails with ice. Some careful experiments have shown that the resistance to traction at a slow speed can sometimes be decreased by washing the rails with soap and water.

#### Lubricating Locomotive Flanges.

A simple contrivance for lubricating the flanges of the leading wheels of an engine when running around curves is in use on the Taff Vale, a Welsh coal line where the trains

are very heavy and the curves severe. It is composed of three small vessels, one placed upon either side, and the third in the centre of the leading end of the engine, under the foot plate. The middle vessel is a closed tank, which is connected with both the others by means of a 1/2 in. copper pipe. It is also connected with the tender or feed-water tank by another pipe, on which is arranged a small inlet valve, worked by a float in the vessel; and this float admits water up to a certain level only. In each of the two side vessels is fixed a small siphon, the top of which stands at a certain height above the ordinary water-level, so that no water will flow out through the siphon unless the water-level is raised above its top. From the siphon a pipe passes down to deliver the overflowing water on the flange of the leading wheel. To put the apparatus into working order water is poured into all three vessels until it rises to a height at which the float closes the inlet valve. When the engine is running round a curve the centrifugal force causes the water to flow toward the outside of the curve, where it rises in the vessel at that side, and flows over the top of the siphon and down to the flange. This continues till the engine leaves the curve, when the water will resume a uniform level in all three vessels, and the float will drop and admit a supply to bring the level up to its normal height. This ingenious contrivance is the invention of Mr. C. Harry Riches, the Locomotive Superintendent of the Taff Vale road.

#### New Injector.

Mr. Frank C. Smith has invented an injector which is in use on the Cincinnati, New Orleans & Texas Pacific Railway, a principal object of which is to be capable of a wide feed range. It is said that it can feed anywhere from 200 to 3,600 gallons per hour.

#### Short Journey Express Trains.

The keen competition between the Midland and the North-western companies for the local Liverpool and Manchester traffic has induced the latter company to put on a new set of trains, specially to run the hourly service between the two cities. The speed and frequency of the services by either line leaves little to be desired, thirty trains a day each way running in from 40 to 45 minutes, the distance by one route being 31 1/2 miles and by the other 34 miles. The new trains are specially designed for comfort and easy riding.

Each train is composed of three carriages permanently coupled. Each carriage is 42 ft. long, and each compartment 8 ft. from side to side and 7 ft. 2 in. wide. The centre carriage has six first-class compartments, two being reserved for smokers. The two end carriages are respectively composed of three second, two third and guard's compartments, and five thirds and guard's compartment. The body of the carriage rests upon 14 cylinder springs and the framework upon eight wheels. The two leading and two trailing wheels are fitted with radial spring axles which admit of easement and promote steadiness in taking curves. The trains are fitted throughout with Webb's vacuum brake, the first and last of the three carriages having an automatic appliance which indicates to the guard the condition of the brake power, and in case of a break-loose or injury to the brake machinery, is self-acting. This appliance brings to a stand any portion of the train which may be severed from the engine by accident. One of the trains has been experimentally fitted throughout with the electric light, which is worked by Brotherhood's patent electric engine. This engine is stationed upon the tender of the locomotive specially fitted out for working the train. The electric current passes from the engine on the tender through the train and back upon the footplate of the locomotive, where there is a regulator which shuts off or puts on the electric light throughout. On the footplate of the locomotive is also one of the electric burners which serves as an indicator to the guard of the condition of the light in the carriage. The apparatus in charge of the driver upon the footplate also includes one of Ayrton & Perry's spring ammeters, which indicates the number of amperes or the intensity of the electric working. The first-class compartments of these trains are artistically decorated with antique moldings and photographic views. The upholstery and moldings are in light and dark blue, which combine in a pleasing and softening hue.—*Railway and Tramway Express.*

#### A New Gas Light.

The London & Northwestern Railway is using a novel form of light, incandescent gas jets, to illuminate a departure platform 900 ft. long at its Euston terminus in London. Twenty of the new burners have replaced 50 ordinary burners. The principle of the burner is the mixing of air under pressure with common gas, the light being produced by the incandescence of a platinum wire gauze cap which forms the apex of the burner. The air and gas are mingled at the burner in such proportions that perfect combustion takes place, so that it is impossible for any unconsumed carbon to escape. The power used at Euston for compressing the air is simply that of a Bisschoff gas engine of two-man power, which is sufficient to supply the air to a much greater number of burners than are at present in use there.

No lanterns or glasses are used, and the light is perfectly steady, there being no flame. It is, moreover, quite unaffected by wind or rain. The burners are constructed to consume 18 ft. of gas per hour, but they are actually consuming only 12 1/2 ft., so that if necessary a very much more brilliant light could be given than is. It is stated that the quantity of gas consumed is 17 per cent. less than with the ordinary system, but that fully double the candle power is obtained, while the expense of the glass lanterns is obviated, as well as the labor of keeping them in order. The invention appears to be a practical success, and in view of its value as avoiding the formation of noxious vapors by combustion, and not less of its apparent economy, it would seem to have a good future before it, now that it has been practically started.—*London Times.*

#### Heavy Trains:

A correspondent writes us that an item concerning a heavy train on the Concord Railroad in our issue of Aug. 22 was correct as far as the time and length of the train was considered, but that the locomotive hauling the train had 15 by 22 instead of 18 by 22-in. cylinders. That a train of 76 cars should be hauled 18 miles in 1 hour and 15 minutes by an engine with only 15 by 22-in. cylinders is certainly an extraordinary performance.

Engine No. 23 on Morgan's Louisiana & Texas road recently brought into Algiers a train consisting of 105 cars, of which 82 were loaded and 23 empty. The engine was built by the Baldwin Locomotive Works, and has 16 by 24-in. cylinders. The road is level, having very few grades, and those very light.

#### One Hundred Flat Cars a Day.

The Pullman Palace Car Co. has reason to pride itself, not only upon the excellence of the work turned out of its shops, but also upon the rapidity with which it can fill orders if necessary. It having been said that the company was slow in filling its orders, the men in the freight-car shops under the supervision of Superintendent G. A. McArthur, were yesterday allowed to show the rapidity of their work. The usual number of flat cars turned out is 25, but yesterday 100



were built. This means that work was begun on 100 flat cars at 8.30 o'clock yesterday morning, and at 6 o'clock in the evening they were completed and painted. Some of them even being properly lettered. This task was an unusual undertaking and could not be done two days running, as it would completely exhaust the men. For this labor the number of men was not increased at all. All of the hands did their utmost, the different gangs vying with each other to do their utmost. The result was that two gangs succeeded in building five cars each. The average time expended in the building of one car was six minutes. To build these 100 cars it required the handling of 23 different pieces of lumber, 91 in number, or 9,100 pieces in 100 cars; 31 different kinds of castings, 170 in number, or 17,000 in 100 cars; 35 different kinds of forgings, 79 in number, or 7,900 in 100 cars; 24 different kinds of bolts, 174 in number, or 17,400 in 100 cars; 24 different kinds of nuts, 174 in number, or 17,400 in 100 cars; besides 900 lag-screws, 27 keys of nails, 100 cotter pins, 650 large and small springs, 18,700 washers, 800 brasses, 400 axles, 800 wheels, 1,200 pounds of waste, and 800 gallons of oil. This is a total of 85,500 pieces handled, and 68,040 nails. These cars, when completed and drawn out on the track, formed an unbroken line 3,200 feet long, and weighed 1,800,000 pounds. —Chicago Inter Ocean, Aug. 19.

#### The Cleveland Electrical Railroad.

The electrical car of Messrs. Knight & Bently has been running nearly three weeks. There have been occasional stoppages, due to mechanical defects, but these have been about all overcome, the inventors say, and yesterday the car was running with perfect regularity, carrying passengers the same as a horse-car, and making the regular schedule time. Occasionally the car was run at a speed of 10 miles an hour, to demonstrate what it could do. The construction of the road is very crude, the conduit not having been run with a level, but notwithstanding this the car rides fully as smoothly as the ordinary car, and with no more noise. The extension of the line, for which material has been ordered, will be laid in a much more substantial manner. Iron plates will be substituted for the slot in place of wood, and catch basins will be built every 200 ft. The inventors have a very ingenious method of clearing the conduit of dirt and other accumulations. They also have a very perfect system of switches, so that the cars may pass each other. In about two weeks another car will be ready, and then three horse-cars and 25 horses can be dispensed with.

Dr. Everett, President of the East Cleveland road, expresses himself as entirely satisfied with the practical success of the new system, and in reply to the numerous inquiries from all parts of the United States has confirmed the telegraphic reports by an unqualified indorsement of its success. He estimates that with an expenditure of \$150,000 for engines, boilers, dynamos, motors and conduits, a saving something like \$50,000 per annum can be effected over horses, besides giving them the additional benefit of rapid transit, which always increases traffic. The company, it is understood, are looking for suitable grounds on which to erect a power plant of 500 horse-power. They can get almost enough for their horses and land that will not then be needed to pay the cost of the improvements. They will probably select some location convenient to reach all their line from midway between Euclid avenue and Garden street. All the street railroad men who have examined the car and system carefully are struck with its great simplicity and practicability. It commends itself to them particularly on account of the comparatively slight cost of changing from a horse road. The ordinary cars are used, requiring no special construction, and involving no great expense other than the motor itself. —Cleveland Herald.

#### An Electrical Mountain Road.

It is proposed to construct a railroad between a hotel at Chillon and one at Montreux, Switzerland, whose difference in altitude is 200 ft., to be worked by electricity, the motor driving a cog wheel engaging in a central cogged rail. The dynamo is to be driven by water power.

#### The Roanoke Machine Works.

During the last ten months 673 hopper-bottom gondola cars and 386 box cars have been made, and this department can now readily turn out eight cars per day. In the locomotive department nine consolidation locomotives are now in course of construction; one of these has been completed and will soon be put into service on the Shenandoah Valley Railroad. (We believe this is the first engine of this kind that has been built in Virginia.) This new engine has been given a thorough trial and found to be satisfactory in every respect. The second engine of this class will be completed by the last of this month. Orders are now on hand for 15 locomotives, giving a promising outlook for the future of this department. The foundry has turned out in these ten months 4,403,000 lbs. of castings of various kinds. Some 400,000 lbs. of plate girder bridges for strengthening the bridges of the Norfolk & Western Railroad have also been furnished. A plant for car-wheels has recently been added, and the first lot of wheels were cast on July 16. A test showed that the patterns, chills, etc., were perfect in every respect, so that new car-wheels can now be made at the rate of 45 a day if necessary. This is a most valuable addition to the works, "inasmuch as we are right in the midst of superior iron for that class of work," says the Superintendent. In the repair shops 91 old locomotives have been overhauled and put in good condition, and so have a number of stationary engines. During the same time 289 old freight and 21 passenger cars have been repaired or rebuilt. —The Virginian.

#### THE SCRAP HEAP.

##### At the Depot.

A man, seemingly about 60 years of age, was telling the people in the waiting-rooms at the Third Street depot yesterday that he had been East to old Massachusetts to see his sisters, and that on the way back he stopped off at Niagara Falls.

"That's a place I never saw," remarked a woman with a poke bonnet on.

"You didn't. Well, you missed the awfulest sight on earth. I was just stunned."

"What is it like?" she asked.

"Well, there's a river, and the falls, and lots of hotels, and several lujans, and the bridge veil, and land only knows what else. If my old woman had a-been along she'd have wilted right down."

"There's water there, I suppose?"

"Oh, heaps of it. It pours and thunders and roars and foams and humps around in the terriest manner. You have bit on a shirt-button in a piece of pie, haven't you?"

"No, sir."

"Well, the feeling was about the same—kinder shivery. Why, the biggest man that ever lived ain't half as big as Niagara Falls! Let him stand there and see that 'ere water tumbling over them 'ere rocks and he can't help but feel what a miserable boss fly he is. You've fallen out o' bed haven't you?"

"No, sir."

"Well, it's about the same thing, you wake up and find

yourself on the floor, and you feel as if you had been stealin' sheep or robbin' blind men."

"What portion of the falls did you most admire?" she asked.

"The water, mum," he promptly replied. "If you'd put 10,000 kegs of beer on the roof of this building and set them all running, they couldn't begin with Niagara. It's the terriest, appallinest thing ever patented."

"Cost you much?" inquired a gentleman.

"Bout 65 cents. It's pooty tight times, and 65 cents don't grow on every bush, but I ain't sorry. It's sunthin' to talk about for twenty years to come. There's a chap in our town who used to travel with a circus, but he'll have to take a back seat when I git home. Flip-floppin' around in a circus don't begin with Niagara Falls."

"So, on the whole, you were pleased, eh?"

"Pleased! Why, I was tickled half to death! I tell you, if I had one on my farm I wouldn't sell it for no \$50 in cash! I've looked into a field whar' 750 fat hogs was waitin' to be sold for solid money, but it was no sich sight as the Falls. I've seen barns afire, and eight hosses runnin' away, and the Wabash river on a tear, but for downright appallin grandeur of the terriest kind gimme one look at the Falls. You all orter go thar'. You can't half appreciate it till you've gazed on the rumpus." —Detroit Free Press.

#### Forging Tickets.

The general passenger agents in St. Louis have issued circulars warning ticket agents to beware of the forgery of skeleton tickets of their roads, which, they are informed, have been ingeniously altered. The *Globe-Democrat* reports the operation of an insinuating fellow who has two vials, one of acid and the other of something that restores paper to its normal condition after the acid has removed the ink. The purpose for which this preparation was made is to erase the name of one station in a railway ticket and substitute another. For instance, a ticket for a station 10 miles distant from St. Louis is taken in hand by the swindler, the name of the station thereon erased and that of another 1,000 miles distance substituted. The trick is easy, and the ticket is absolutely safe from the suspicion of its being a forgery. Working without the fear of discovery, an unscrupulous broker could alter innumerable tickets in this manner and pocket the proceeds. The General Passenger Agent of the Missouri Pacific says: "I have been experimenting with this thing for some time; and I have been instructing conductors and others to look out for suspicious tickets. This preparation is a wonderful thing, and can be used so that its traces cannot be detected even with a microscope."

#### Train Wreckers Captured.

A dispatch from Canton, Miss., Aug. 26, says: "Numerous attempts have been made during the past six months to wreck the trains of the Illinois Central Railroad near Duck Hill, 76 miles from this point. One of the wreckers was arrested and lodged in jail six weeks ago. Three weeks ago a stranger was arrested and placed in the same cell with the wrecker. The two became intimate, and the wrecker made a confidant of the stranger and gave the whole thing away, telling who his confederates were. Yesterday the stranger, who turns out to be a Chicago detective, was released, and two white men and two negroes were arrested as the accomplices of the man in jail."

#### Tampering with the Telegraph.

For several months past the dispatchers of the Canada Southern Division of the Michigan Central road have been aware that the telegraph service has been interfered with. Close watch was kept by detectives but they failed to locate it. An operator at Fletcher about three weeks ago discovered the secret and exposed a most vicious scheme for wrecking trains. The operator at Fletcher station reported to the chief operator at St. Thomas that a train had passed that station without receiving an order telegraphed by the dispatcher from St. Thomas. He received "O. K." for the message from operator "X," the sign or letter used to designate the St. Thomas dispatcher. The message, however, did not reach St. Thomas, but had been taken by operator Genge, of Taylor station, who had grounded the wire in his office, cut out and took the message and gave the "All correct" signal, using the letter of the St. Thomas train dispatcher. He then destroyed the message. Great loss to property was averted through the vigilance of the dispatcher, who, not hearing from this train at the proper time, instituted inquiries which led him to believe that the service had been tampered with. The result was the arrest on Wednesday of Genge, and an accomplice named Gott. They were given a trial before the police magistrate, each was found guilty of the charge and mulcted in the sum of \$80 and costs, amounting to \$34.60 in all. Both were placed on the dismissed list, and are ineligible for future employment. Possibly a similar scheme is the secret of other unaccountable accidents on different roads. —Buffalo Commercial, Aug. 26.

#### Catching Chickens.

An engineer on the New York, New Haven & Hartford road affirms, with much vigor, that one day last week when he was running an express train from Hartford down the road he ran into a flock of chickens just below the Berlin station. One of the fowls was killed. One hen attempted to fly away from her dangerous position between the rails. As would be expected, she made an utter failure of it and landed on the pilot head. The train was running at the rate of 45 miles an hour, and the hen apparently had sense enough to know that any attempt to fly off would prove fatal. So she roosted on her narrow perch until the train rolled into the Meriden station, 8 miles below the spot where she became a passenger. When the train came to a standstill she jumped off, shook her feathers, and ran away, much to the disappointment of the engineer, who wanted her for a pet. —New York Times.

The writer remembers seeing, a number of years ago, a train on the New Jersey Railroad run into Elizabeth station with a large rooster clinging to the pilot. In that case, however, the chicken was bewildered by his ride and was easily caught and carried off to furnish a dinner for the engineer, who, by the way, afterwards complained that the bird was very tough.

#### Carrying Passengers as Express Matter.

The Southern Express Co. has determined to receive no more live freight. It has as much business as it can attend to, and does not care to be bothered with helpless children or idiots. In times past it was quite customary to send persons by express. Negro slaves were often sent from the point at which they were purchased to the house of their master in this manner. Children are frequently sent in this manner to save the expenses of a protector. Not long since the parents of two children died in Savannah, and the children were sent by express to Mississippi to their grandmother.

The rules recently issued by the company state that no person shall be received for transportation.

The express agent is more careful in his attention to helpless persons in his care than conductors would probably be. A conductor has a large number of persons to look after, and cannot give that attention to persons in his charge that

the express agent could. In times past conductors were not as obliging as they are now. The few railroads had a monopoly and cared very little whether they obliged passengers or not. Now there is competition, and there is a choice in routes from one point to another. So great has been the progress in helps to traveling that a lady will now far better be at the hands of conductors and passenger agents than under charge of an escort ignorant of the rules of travel. —Augusta (Ga.) Chronicle.

#### Running Over a Bear.

One afternoon last week as a freight train on the New Brunswick Railway was approaching Millville, N. B., the engineer saw a bear on the track and putting on extra steam struck it as it attempted to jump from the road. The bear, however, escaped, but the fireman brought in one paw in triumph as a proof of the story.

#### Railroad Men's Troubles in Mexico.

The *Mexican Financier* of Aug. 16 says: "In this age of commerce and progress, the people of Calera still seem to cling to the ignorance and fanaticism in which they have been steeped for generations. They manifest their dislike for railroads and all other modern improvements, by persecution of the Mexican Central trains and tyranny over the employees of the road. Most of the obstructions to, and stoning of, trains have occurred between Zacatecas and Calera. The Jefe Politico of the latter town seems worthy of all the know-nothingism that he represents. He has never been known to miss any opportunity or excuse for working injury to an American, or for interfering with the business of the railroad company. A trouble last Saturday, that originated by one American losing his temper with a Mexican who seemed determined upon provoking him to the utmost, caused this remarkable magistrate to arrest about every American he could find within the limits of his jurisdiction. The account we have of the trouble is that the Master Mason of the road was persistently interfered with by a Mexican with whom he finally lost his temper, whereupon a number of policemen, instead of arresting him for the undeniable fault of taking the law into his own hands, set about beating him with their clubs. It was perfectly natural that his friends should rescue him from such brutality. He escaped on an engine to Fresnillo. The Jefe Politico then caused to be imprisoned 14 Americans, some of whom had not even witnessed the unfortunate affair. After keeping them confined for 72 hours they were released on the payment of fines ranging from \$7.50 to \$10 apiece. A great prejudice existing in Calera against modern conditions of prosperity, further wholesale arrests are to be expected, this device being found so excellent a financial contrivance for remedying the poverty that has always in the past afflicted the treasury of the town. Where such ingenuity is possible, very small amounts will undoubtedly suffice to keep affairs moving in the slow tenor of their ancient way. Yet we are not surprised to learn that railroad employees are all anxious for a removal from that point, where the officials and many of the people have not yet awakened from the darkness of the middle ages. To say nothing about public convenience, a consideration for the public safety should induce the Manager of the Mexican Central Railroad to arrange some understanding with the supreme authorities of Calera, to the end that at least the train dispatcher and telegraph operator of the road may in future be exempt from arrest as long as they commit no violation of the laws. It would be still better for the progressive element of the community to take a more active interest in its public affairs."

#### The Porter's Memory.

"It's wonderful what practice will do for a man," remarked a gentleman on a Pullman sleeper one evening. "Now, I have observed a peculiar thing on sleeping cars, which goes to show how even a common mind may be trained to perform almost incredible feats of memory and precision. While we are asleep the porter will gather up all our shoes and dump 'em in a pile in the gents' washroom, to polish them when he gets time. There will be shoes that look just alike, and many of the same size, but in the morning every man of us will find his own shoes and nobody else's beneath his berth."

Next morning, sure enough, every man's shoes were in their proper place, and the gentleman again called attention to so remarkable a fact. "Here, porter," he exclaimed, slipping the grinning functionary a dollar note to loosen his tongue, "tell us how you do it?"

"Yes, sah," says the porter: "It's jus' as easy when you get 'customed to it. Takes a pow'ful sight of practice, though."

"That's what I told you," remarked the gentleman to his companions, triumphantly.

"Yes, sah, it takes a pow'ful sight o' practice. It wath two hull weeks afo' I could learn to chalk the numbans of de berfs on the soles of shoes without makin' mistakes. Thank ye, boss." —Exchange.

#### Fishing for Business.

General Superintendent Childs, of the New York, Ontario & Western road, says: "We must have put in millions of fish in the headwaters of the streams of Sullivan County, and intend to fit up a number of cars comfortably, not extravagantly, another season, and lease them to fishermen by the day. They can be side-tracked at places convenient to the best fishing, and with a porter to care for them and comfortable beds, sportsmen could enjoy a royal good time in the woods free from the restraints of hotel life. I believe there are enough fishermen in New York to keep a number of cars moving all summer."

#### ANNUAL REPORTS.

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St. Louis, Alton & Terre Haute.

This company operates a line from East St. Louis, Ill., to Eldorado, 121 miles, with a branch from Belleville to East Carondelet, 17.3 miles, making 138.3 miles in all. This line is made up of the Belleville Branch, owned, East St. Louis to Belleville, 14.4 miles; the Belleville & Southern Illinois, Belleville to Du Quoin, 56.4 miles; the Belleville & Eldorado, Du Quoin to Eldorado, 50.2 miles; and the Belleville & Carondelet, Belleville to East Carondelet, 17.3 miles. The last named road was leased from June 1, 1883. The report is for the year ending Dec. 31.

The company also owns a main line from East St. Louis to Terre Haute, Ind., 189 miles, with a branch to Alton, Ill., 4.2 miles, this line being leased to the Cleveland, Columbus, Cincinnati & Indianapolis Co., as owner of the Indianapolis & St. Louis road.

The equipment of the line worked includes 18 locomotives; 12 passenger, 2 baggage and 2 mail cars, 200 box, 15 refrigerator, 25 stock, 40 flat and 600 coal cars.

The general balance sheet is as follows, condensed:

Common stock.....	\$2,300,000.00
Preferred stock.....	2,468,400.00
Funded debt.....	8,357,000.00
Sinking fund.....	655,000.00
Accounts and balances.....	274,386.83
Income account.....	794,868.98
<b>Total.....</b>	<b>\$14,903,925.83</b>
Capital stock account.....	\$13,125,400.00
Sinking fund.....	655,000.00
Old rental accounts.....	516,432.47
Lease main line, current rental.....	37,500.00
Bank of North America.....	274,386.83
Special bond investment.....	295,200.00
<b>Total.....</b>	<b>\$14,903,925.83</b>

The funded debt consists of \$2,200,000 first-mortgage bonds; \$3,800,000 preferred second-mortgage bonds; \$1,700,000 income second-mortgage bonds; \$300,000 equipment bonds and \$1,357,000 dividend bonds. The sinking fund holds \$636,000 bonds and \$156,678 cash.

The traffic for the year on the line worked was as follows:

	1883.	1882.	Inc. or Dec.	P. c.
Passengers carried.....	278,303	246,649	I.	31.654
Passenger-miles.....	7,374,282	6,202,045	I.	1,172,237
Tons freight.....	335,007	343,623	D.	11.616
Freight ton-miles.....	20,557,590	20,346,750	I.	210,840
Tons coal carried.....	400,534	393,270	I.	7.264
Coal ton-miles.....	13,227,501	11,388,988	I.	1,838,513

At rate:

Per passenger-mile.....	2.430 cts.	2.700 cts.	D.	0.270 cts.	10.0
Per freight ton-mile.....	1.618 "	1.850 "	D.	0.232 "	12.5
Per coal ton-mile.....	2.025 "	2.370 "	D.	0.345 "	14.6

The freight exchanged with the Illinois Central at Du Quoin amounted to 229,648 tons, of which 200,608 tons were through freight between St. Louis and Cairo. The average rate on this through freight was 0.988 cent per ton-mile. The number of through passengers was 31,179.

The earnings of the line worked were as follows:

	1883.	1882.	Inc. or Dec.	P. c.
Freight.....	\$332,644	\$376,670	D.	\$44,026
Coal.....	267,932	269,704	D.	1,772
Passengers.....	178,968	168,301	I.	10,667
Mail, etc.....	52,924	60,784	D.	7,860
<b>Total.....</b>	<b>\$832,468</b>	<b>\$875,459</b>	<b>D.</b>	<b>\$42,991</b>
Expenses.....	425,935	446,332	D.	20,397
<b>Net earnings.....</b>	<b>\$406,533</b>	<b>\$429,127</b>	<b>D.</b>	<b>\$22,594</b>
Gross earn. per mile.....	6.421	7.235	D.	8.41
Net.....	2.138	3.547	D.	4.09
Per cent. of exp's.....	51.10	51.00	I.	0.10

Earnings and expenses decreased in very nearly the same proportion, leaving a comparatively small decrease in net earnings.

The result of the year was as follows:

Net earnings of line worked.....	\$406,533.16
Rental of main line.....	450,000.00
Interest, etc., received.....	7,186.80
<b>Total.....</b>	<b>\$863,720.96</b>
Interest paid.....	\$469,000.00
Rental of leased lines.....	\$90,897.98
Main line and legal expenses.....	17,647.24
New equipment.....	3,000.00
Dividend on preferred stock, 7 per cent.....	172,788.00
<b>Total.....</b>	<b>\$863,333.22</b>
Surplus for the year.....	\$686.74
Balance, Jan. 1, 1883.....	794,182.24
<b>Balance, Jan. 1, 1884.....</b>	<b>\$794,868.98</b>

This balance is composed principally of claims for back rent in litigation and of nominal par of equipment bonds received in settlement of the old suit against Purchasing Committee.

The decrease in earnings is due to the falling off of local freight, caused by the failure of the wheat crop on the line of the road, owing to drought. In through freight there was an increase in earnings, mostly due to the opening of the Texas & St. Louis road in September. In the coal traffic there was no material change. The depression in the iron manufacture retarded the natural increase, but the increased demand for other purposes made the total trade about the same as in the preceding year.

The Belleville & Carondelet road, extending from Belleville to East Carondelet, 11.3 miles, was leased from June 1, 1883, at a fixed yearly rental of \$30,000, being 6 per cent. on the cost of the road. Under the terms of the lease the entire capital stock of the company was transferred to this company and is owned by it. The object of the lease was chiefly to prevent the construction of a competing line and to enable this company to hold its share of the coal and coke

business. The line should be looked upon, however, as an addition to the yard and terminal facilities rather than as an increase of main line mileage, although it reaches some mines whose business would not otherwise pass over the road. It is considered that the terminal property at East Carondelet and the facilities given by the road for reaching the iron works there and in South St. Louis will fully repay any burden which the rental may prove to be.

The gross earnings of the main line, as reported by the lessee, were as follows:

	1883.	1882.	Inc. or Dec.	P. c.
Freight.....	\$1,028,980	\$934,828	I.	\$94,152
Passengers.....	353,978	358,740	D.	4,762
Mail, etc.....	101,111	125,093	D.	23,982
<b>Total.....</b>	<b>\$1,484,069</b>	<b>\$1,418,661</b>	<b>I.</b>	<b>\$65,408</b>
Per mile of road.....	7,682	7,340	I.	336

The lessee of the main line has paid promptly the minimum rental of \$450,000 per year, in monthly installments, and has in all respects carried out the stipulations of the lease in good faith. The lessee reports that during the year about 54 miles of new steel rails were laid in the main track, over 100 miles ballasted, 11.5 miles of new side track laid and many other improvements completed.

The intervening petition of this company in the foreclosure proceeding against the former lessee, the Indianapolis & St. Louis Railroad Co., in which the claim of this company to priority in the distribution of the proceeds of the sale of the road, has been formally submitted to the Court and argued, but no decision has yet been rendered.

Chicago & West Michigan.

At the close of the last fiscal year, Dec. 31, 1883, this company owned and operated the following lines:

La Crosse, Ind., to Pentwater, Mich.....	208.74
Holland, Mich., to Allegan.....	23.00
Holland to White Cloud.....	70.00
Fruitport to Muskegon.....	10.00
Kirk's Junction to Pickand's Junction.....	3.50
Muskegon to Port Sherman.....	6.00
Big Rapids Junction to Big Rapids.....	51.50
Woodville to Stimpson's Camp.....	8.00
Mears to Hart.....	3.30
White River Junction to Baldwin.....	29.00
<b>Total.....</b>	<b>412.74</b>

The extension of the main line from New Buffalo to La Crosse was completed near the close of 1882. Changes last year were the extension of the White River Branch from West Troy to Baldwin, 12 miles, and the taking up of 9 miles of track from the logging branch to Muskegon River.

There are 77.55 miles of sidings. Of the total mileage of main track, 258.66 miles are laid with steel. There are 34.46 miles of the road in Indiana, all the rest being in Michigan.

The general account, condensed, is as follows:

Stock.....	\$6,796,800.00
Funded debt.....	3,787,000.00
Sundry accounts and balances.....	214,950.76
Income.....	231,896.03
<b>Total.....</b>	<b>\$11,031,146.79</b>

To al..... \$9,854,110.95

Road and equipment.....	\$9,854,110.95
Charles Merriam, trustee, stocks held.....	742,610.00
Materials.....	100,231.69
Accounts and balances.....	277,758.35
Cash.....	50,435.80
<b>Total.....</b>	<b>\$11,031,146.79</b>

The funded debt consists of \$480,000 Chicago & Michigan Lake Shore 8 per cents; \$576,000 Grand Rapids, Newaygo & Lake Shore 8 per cent. firsts and \$30,500 Second Division 7 per cents; \$2,701,000 consolidated 5 per cents. The interest charge is \$231,665 yearly. The funded debt is \$9,176 per mile.

The traffic for the year was as follows:

	1883.	1882.	Inc. or Dec.	P. c.
Passenger.....	478,462	385,911	I.	92,551
Freight.....	582,634	512,118	I.	70,516
Total loco. miles.....	1,586,948	1,429,306	I.	157,642
Pass. car miles.....	1,561,210	1,352,970	I.	208,240
Freight car miles.....	9,091,592	8,324,558	I.	767,038
Passenger carried.....	659,301	636,470	I.	22,831
Passenger-miles.....	16,779,017	17,477,466	D.	698,449
Tons freight carried.....	1,102,309	875,166	I.	227,143
Ton-miles.....	61,317,920	50,566,361	I.	10,751,559

At rate:

Passengers, No.....	35	45	D.	10	22.2
Freight, tons.....	105	99	I.	6	6.1
Per passenger mile.....	2.780 cts.	2.600 cts.	I.	0.180 ct.	6.9
Per ton-mile.....	1.675 "	1.989 "	D.	0.314 "	15.8

Locomotive service cost 20.11 cents per mile run. The average passenger journey last year was 25.45 miles; the average freight haul was 55.84 miles.

The earnings for the year were as follows:

	1883.	1882.	Inc. or Dec.	P. c.
Freight.....	\$1,036,938	\$995,674	I.	\$41,264
Passengers.....	486,053	458,949	I.	27,104
Mail and express.....	52,948	45,228	I.	7,720
Miscellaneous.....	4,100	3,581	I.	519
<b>Total.....</b>	<b>\$1,580,039</b>	<b>\$1,503,432</b>	<b>I.</b>	<b>\$76,607</b>
Expenses.....	1,185,224	1,047,788	I.	137,436
<b>Net earnings.....</b>	<b>\$394,815</b>	<b>\$455,644</b>	<b>D.</b>	<b>\$60,829</b>
Gross earn. per mile.....	3.756	4.009	D.	253
Net earn. per mile.....	1.215	1.215	D.	331
Per cent. of exp's.....	76.40	69.60	I.	6.77

The large increase in expenses was chiefly due to extraordinary repairs, as noted below.

The result of the year was as follows:

Net earnings, as above.....	\$394,815.72
Interest, etc., received.....	7,559.28
<b>Total.....</b>	<b>\$402,375.00</b>
Interest paid.....	\$217,023.34
Dividend, 2 per cent.....	123,004.00
<b>Total.....</b>	<b>\$340,027.34</b>
Surplus for the year.....	\$68,347.66
Balance for previous year.....	76,485.37
<b>Total surplus.....</b>	<b>\$144,833.03</b>

The dividend of 2 per cent. was paid Feb. 15, 1884. During the year there was expended for extensions of the road \$216,362 and for new equipment \$105,033, a total of \$321,395, the funds being provided from the sale of the company's 5 per cent. bonds.

The General Manager's report says that earnings were reduced by the severity of the winter, which not only increased the actual expenses but largely reduced the earnings by the interruption to traffic. Again, during the last of July the road was badly damaged by a terrible storm of wind and rain, one of the severest ever known in Western Michigan. Expenses were also increased by the greater renewals of road and increased repairs to equipment.

The extension of the road southward to LaCrosse, which was completed in December, 1882, has developed an increasing business and has given the road much better connections,

providing a southern outlet for its lumber traffic. The extension of the White River Railroad from West Troy Junction to Baldwin, 12.5 miles, was opened for traffic in December, 1883, and promises a good return on the cost of building the road, not only opening a new lumber country, but giving the road a connection with the Flint & Pere Marquette road for Ludington and Manistee, two important lumber points.

Georgia Railroad.

This road includes a main line from Augusta, Ga., to Atlanta, 171 miles, with branches from Barnett to Washington, 18 miles; Union Point to Athens, 40 miles; Camak to Macon 78 miles—a total of 307 miles. The road is leased to the Central Railroad Co., of Georgia, and the Louisville & Nashville Railroad Co., as joint assignees of Wm. M. Wadley, and is operated by a General Manager for their joint account. The report is for the year ending March 31.

The equipment consists of 42 locomotives; 25 passenger, 6 sleeping, 5 combination, 3 postal and 10 baggage and mail cars; 476 box, 153 Green Line, 84 stock, 174 flat, 113 coal and 19 caboose cars; 1 pay car, 3 commissary and 26 shanty cars.

The general account of the Georgia Railroad & Banking Co. is as follows, condensed:

Stock.....	\$4,200,000.00
Surplus.....	568,974.95
Funded debt.....	2,681,000.00
Unclaimed interest and dividends.....	\$7,846.14
Income account.....	601,254.41
<b>Total.....</b>	<b>\$8,089,075.50</b>

Road and outfit.....	\$4,200,000.00
Real estate and banking house.....	43,283.38
Stocks, bonds, etc., owned.....	3,257,206.12
Cash and bills receivable.....	324,227.66
Expense account.....	163,658.34
<b>Total.....</b>	<b>\$8,089,075.50</b>

The funded debt includes \$185,000 plain 7 per cent. bonds due from 1884 to 1890; \$2,200,000 plain 7 per cent. bonds, due \$1,000,000 in 1897, \$1,000,000 in 1910 and \$200,000 in 1922; and \$296,000 Macon & Augusta mortgage bonds.

The statement of the company's bank shows \$1,062,022 due depositors and others; \$91,834 surplus and undivided profits and \$49,692 net earnings for the year. Assets include \$1,010,649 loans, balances, etc., and \$192,899 cash.

The remaining statements are from the report of Maj. J. W. Green, General Manager for the lessees.

The traffic for the year, as reported, is as follows:

	1883-84.	1882-83.	Inc. or Dec.	P. c.
Passenger.....	306,761	296,480	D.	33,273
Freight and mixed.....	800,188	802,811	D.	2,623
Service and switching.....	202,811	202,811	I.	0

	1883-84.	1882-83.	Inc. or Dec.	P. c.
Total.....	1,309,760	1,173,063	I.	136,697
Bales cotton carried.....	260,207	260,480	D.	273
Bushels grain.....	2,505,796	1,826,167	I.	679,629
Barrels flour.....	231,246	223,856	I.	7,390
Tons guano.....	67,293	54,946	I.	12,347
Total tons freight.....	397,733	355,637	I.	42,096
Ton-miles.....	53,230,838	46,509,431	I.	6,72





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## EDITORIAL ANNOUNCEMENTS.

**Passes.**—All persons connected with this paper are forbidden to ask for passes under any circumstances, and we will be thankful to have any act of the kind reported to this office.

**Contributions.**—Subscribers and others will materially assist us in making our news accurate and complete if they will send us early information of events which take place under their observation, such as changes in railroad officers, organizations and changes of companies, the letting, progress and completion of contracts for new works or important improvements of old ones, experiments in the construction of roads and machinery and in their management, particulars as to the business of railroads, and suggestions as to its improvement. Discussions of subjects pertaining to ALL DEPARTMENTS of railroad business by men practically acquainted with them are especially desired. Officers will oblige us by forwarding early copies of notices of meetings, elections, appointments, and especially annual reports, some notice of all of which will be published.

**Advertisements.**—We wish it distinctly understood that we will entertain no proposition to publish anything in this journal for pay, EXCEPT IN THE ADVERTISING COLUMNS. We give in our editorial columns OUR OWN opinions, and those only, and in our news columns present only such matter as we consider interesting and important to our readers. Those who wish to recommend their inventions, machinery, supplies, financial schemes, etc., to our readers can do so fully in our advertising columns, but it is useless to ask us to recommend them editorially, either for money or in consideration of advertising patronage.

## POOLING TRAFFIC IN EUROPE.

The people who are most in favor of active state railroad control are generally the ones who most object to pools. It may surprise them to learn that the state-managed roads of Central Europe have pooling arrangements which far surpass in completeness anything of the kind ever attempted in this country. Such is the fact. The state not merely sanctions these arrangements, it regards them as a matter of course; dividing traffic by fixed percentages between its own roads and competing private companies, or roads belonging to other states. The reason why we hear so little said about it is, that nobody thinks of complaining, or regards any other arrangement as possible. The demands for free competition so often and so loudly made in this country, the European business man (outside of England) never makes, and could get nobody to listen to him if he did. The *Instradierungs-Vertrag*, or agreement as to the share of competitive traffic to be forwarded by the rival routes, is as much a matter of course as the agreement for division of through rates between the different sections of the line.

The instance of the Arlberg line, now just opened, furnishes as strong a case in point as could well be imagined. It is so different in its character from any existing routes that one can only guess as to the traffic it will develop, the rates it could most profitably make, or the share of already existing traffic which it could take from rival lines. And yet, before the line is open, while entirely in the dark on all these points, the first thing the parties interested do is to agree upon percentages. Before completing their arrangements for connections, apparently before deciding about through rates, they divide the competitive traffic from each region to every other region affected; settling in advance what share the Tunnel route shall receive in each case, and how it shall be divided between the connections at either end.

The Arlberg differs from all the other great European mountain railroads in being an east-and-west route, instead of a north-and-south one. It pierces the watershed between the upper Rhine and the Inn, the latter being the south branch of the Danube. The tunnel thus formed connects North Switzerland with Tyrol; it forms a natural line of communication from France, Switzerland and Southwestern Germany, to Austria and Turkey—in fact, to the whole of South-eastern Europe. It is the short line between Lyons and Vienna, between Paris and Constantinople.

Some of this traffic has gone, and will of course continue to go, by the Mediterranean or by Italy. A larger part, for which the new line more directly competes, has hitherto taken the northern route, through Bavaria and the hill country of Southwest

Germany. The Bavarian roads are owned and operated by the Bavarian government, the Arlberg by the Austrian government. It was between these two, therefore, that the first and most direct conflict of interests must arise. The Bavarian route had the advantage of being first on the ground, and having its western connections already arranged. The Austrian route had the advantage in the fact that Austria owned or controlled a large part of the eastern connections of both routes. In the matter of distance, neither could be said to have very decidedly the advantage on the international traffic already existing, apart from what the new route hopes to develop. Taking the latter into account, the Arlberg has generally an advantage.

Between the two the traffic is quite carefully divided. Of all traffic between Switzerland or France, on the one hand, and Austria or countries beyond it on the other, the new route is to receive 50 per cent. in every case, and in some parts of it (where the Bavarian route is much longer) a great deal more—sometimes 100 per cent. But the traffic of Southwest Germany to or from the east is mainly given to the Bavarian routes, the percentages varying in different cases from 25 to 85 per cent.; and the same thing may be said of the traffic between France or Switzerland and Bavaria, of which the Arlberg gets very little.

The trunk-line question was thus settled, but they had still to consider the interests and percentages of connecting roads; for they wished to leave no inducements for a freight war anywhere. The matter of eastern connections gave no trouble. The different lines involved had previous pooling contracts which would not be rendered unjust by any prospective increase of traffic. With the western connections it was different. The Arlberg route strikes the Rhine Valley at the southeastern end of the Lake of Constance. From this point two distinct Swiss routes connect with it, the more important one leading directly along the southern shore of the lake and making connections, in the course of thirty miles, with quite a variety of different lines in all directions. But none of these routes had been built with reference to through traffic from this new direction; and, to complicate matters still further, the Austrian government put a line of steamers on the lake to carry cars over to the German roads reaching the northern and western shores of the lake. (Strange as it may seem, this is said to be the first case in Europe where loaded freight or passenger cars are ferried across in this way.) The Austrian government was thus rendered in large measure independent of its Swiss connection. It did not abuse its advantages. The Swiss roads receive the whole traffic to or from Switzerland and Southern France via the Arlberg; half of the traffic of Central France via both routes combined, if the new route has as much as that at its disposal; and even some small fractions of the German business. The last has been the most difficult point to arrange.

Here we have an instance where a through route, whose capacity to secure, handle or develop business has not been tested, receives percentages of the whole competitive traffic to or from each district, and arranges with its various connections a division among them of traffic which, for the most part, does not exist, and whose volume cannot be even guessed at with any confidence. Conflicting interests were settled, not merely without a fight, but without even a trial of strength—except strength in argument.

The idea of pooling is ingrained into the railroad management of Central Europe, even if we can see or hear very little about it. They know almost nothing about wars of rates on the scale that we have had them in America. With these facilities for pooling, the temptation to discrimination of all kinds has been very much lessened. They have had their hands free to grade their rates according to distance, according to supposed cost of service, or according to any scheme, natural or artificial, which the authorities were pleased to adopt. We are not now discussing the question whether all this is good or bad. To a certain extent it has kept rates up and kept traffic and enterprise down. On the other hand, it has prevented many of the worst abuses which are involved in reckless railroad management. But, leaving this aside, the point is, that the pools are inseparable from the equalization of rates. You cannot quote the example of Europe in the second point and neglect it in the first. You cannot make it a precedent for a "short-haul" bill, and yet refuse legal sanction to pooling agreements at the same time.

There is a great difference in the action of governments where the state owns railroads, as in the case of Continental Europe, from that where the state is trying to control railroads which it does not own, as in England or America. Where the state owns its roads, it soon has a body of trained officials who manage them largely on business principles; but having powers

of uncontrolled action not generally possessed by managers of private roads, they avoid inequalities by leveling up. But a commission dealing with other people's roads hopes to reach the same equality by leveling down. They try to prevent discrimination; they quote instances of countries where it does not exist as it does here. But they refuse their sanction to the means which those countries have adopted to secure that equality, and which has thus far seemed to be the only means, at all practicable, to aid in securing that end.

## The New York Central's Quarterly Report.

The New York Central & Hudson River Railroad quarterly report for the three months ending with June shows very unsatisfactory returns. The net earnings for the quarter were \$2,128,813, against \$2,491,699 in the quarter ending with March, and \$3,232,329 in the first quarter of the company's fiscal year, ending with December. After paying interest, rentals, etc., there is left a profit for the June quarter amounting to but \$733,813, which is but 82 cents per share, while the company has actually paid a dividend of \$2 per share for that quarter. The profits have been falling off rapidly from quarter to quarter. They were \$2.05 per share in the December quarter, \$1.23 in the March quarter, and 82 cents in the June quarter. During this last quarter the 15-cent Chicago-New York rate prevailed, which gave a large traffic but substantially no profit.

As the earnings for separate months or quarters have not been given before since 1880, no comparisons can be made with last year, but we can compare the gross earnings with those four and five years ago, as follows:

Three months to	1878-79.	1879-80.	1883-84.
Dec. 31.....	\$7,575,789	\$8,546,638	\$7,914,128
March 31.....	6,709,508	7,765,079	6,710,592
June 30.....	6,448,459	7,076,788	6,861,071
Nine months.....	\$20,733,756	\$24,289,115	\$20,985,790
Year.....	28,396,583	33,175,013	25,386,711
P. c. of expenses.....	56.94	53.80	62.51

For the last quarter and for the nine months the gross earnings were somewhat greater this year than in 1878-79, but they were 20½ per cent. less for the last quarter, and 18½ per cent. less for the nine months than in 1879-80. But the working expenses, calculating them by their percentage of the whole year's earnings, were \$11,805,800 in 1879 and \$13,067,500 in 1880, for the nine months, against \$13,132,950 this year, leaving the net earnings (which are closely approximate, but not exact, for 1879 and 1880):

1878-79.	1879-80.	1883-84.
\$8,927,956	\$11,221,615	\$7,852,940

Thus this year they have been \$3,368,775 (30 per cent.) less than in 1880, and \$1,075,116 (12 per cent.) less than in 1879. It should be said that 1879-80 was the most profitable year the company has ever had, its profits for the whole year having been \$11.82 per share. But 1879 was not a favorable year for gross earnings, and the June quarter was especially unfavorable, east-bound rates then being lower than they were this year even. The company earned its dividend only because working expenses were light then—\$4,627,000 less than last year, and more than \$3,000,000 less than in 1881 or 1882. There has evidently been a great decrease in the amount of expenses this year compared with last year, when the proportion for nine months was \$15,500,000.

The earnings, expenses, prior charges and profit in each of the three quarters of this year for which reports have been made have been:

	Three months to	9 months.
	Dec. 31. March 31. June 30.	
Gross earnings.....	\$7,914,128 \$6,710,592 \$6,361,071	\$20,985,790
Expenses.....	4,681,739 4,218,893 4,232,258	13,132,890
Net earnings.....	\$3,232,329 \$2,491,699 \$2,128,813	\$7,852,840
Int., rent and taxes	1,395,000 1,395,000 1,395,000	4,185,000
Profit.....	\$1,837,329 \$1,096,699 \$733,813	\$3,667,840
Profit per share.....	\$2.05 \$1.23 \$0.82	\$4.10

The company's year ending with September next evidently will be the worst in its history. The current quarter will probably be better than the last one, as east-bound rates are higher, and September is one of the busy months of the year. But so far business has been light, and the profits may not exceed those of the March quarter, and almost certainly cannot equal those of the December quarter. Heretofore this company has reported profits less than \$8 per share only in two years—\$7.96 per share in 1876-77, and \$6.42 in 1881-82. It looks as if they might not be more than \$5.50 this year, and, of course, at this rate 8 per cent. dividends cannot be maintained.

The decrease is the more formidable because a large part of it is due to permanent causes—to the opening of two new lines between New York and Buffalo, which almost certainly will secure a larger share of the traffic hereafter than they have had heretofore. The bad condition of business has had something to do with it, but not so much as the competition



of the new roads. A large increase in through traffic now will not have the effect on its earnings now that it had after 1870, because there are two more roads to share it.

Not having the New York Central's earnings for the different months of last year, we cannot compare exactly its falling off in earnings and profits with those of its fellow-sufferer, the Erie. But both in 1879 and 1880 about 27 per cent. of the gross earnings of the year were made in the September quarter. This quarter was not generally favorable last year, and probably the gross earnings of the road for the nine months ending with June were as much as \$25,000,000, and the net earnings about \$9,640,000, making the decrease, compared with the Erie and the Pennsylvania:

	N. Y. Cen.	Erie.	Penna.
In gross earnings.....	\$4,014,210	\$1,812,753	\$1,021,043
Per cent.....	16.0	12.3	2.8
In net earnings.....	\$1,787,161	\$870,361 (Inc.)	\$25,042
Per cent.....	18.5	19.3	0.5

This indicates the rate of decrease in the gross earnings to have been much greater on the Central than on the Erie, but the rate of decrease in the net to have been somewhat less. The Pennsylvania is shown to have had a comparatively small decrease in gross earnings, and actually a slight gain in net, but substantially the whole of the decrease was in the last six of the nine months, and then there was a decrease of 4½ per cent. in its net earnings.

It thus appears that the two roads to Buffalo have been the great sufferers, and this is chiefly, we believe, because they suffer in both through and local business by the competition of the two new railroads to Buffalo, and these will remain to plague them long after business revives.

#### When New Crops Affect Railroad Earnings.

The railroads northwest of Chicago do not as yet show the effect of the great crops, for the very good reason they are not yet marketed—a part not yet harvested and very little threshed; and with the farmers all in the fields, the traffic which they supply is almost at its lowest ebb. For the third week in August the Northern Pacific even reports a slight decrease in earnings, the Milwaukee & St. Paul substantially no change, the St. Paul & Omaha a decrease of 3 per cent., notwithstanding an increase of 12 per cent. in mileage; the Chicago & Northwestern a decrease of 6½ per cent. An examination of the course of earnings from month to month in previous years shows that on roads south-west of Chicago earnings begin to increase in August or even in July, while northwest of Chicago the increase is not marked until September. Thus the percentage of increase (or decrease) in July, August, September and October compared with June, on several roads has been, in different years (decrease only in parentheses):

	July.	August.	Sept.	Oct.
Missouri Pacific:				
1883.....	10½	50	49	33
1882.....	37	70	49	60
1881..... (Dec. 6½)	6½	8½	3	4
Chic. & Alton:				
1883.....	9½	33	40	35
1882.....	13½	39	48	39
1881.....	6½	21	22	21½
1880.....	15	23	24	27
Hannibal & St. Jo.				
1883.....	8	56	57	48
1882.....	24	60	60	50
1881.....	6	10	13	22
Chicago, Bur. & Q.				
1883..... (Dec. 6)	6	30	50	41½
1882.....	13	45	52	58
1881..... (Dec. 9½)	9½	4½	8½	2½
1880.....	5½	9	10½	15
Chicago & N. West.				
1883..... (Dec. 1½)	1½	8½	19½	26
1882.....	9½	25	27½	27½
1881..... (Dec. 14)	14	½	7½	1½
1880.....	1½	6	20	26
C. St. P., M. & Om.				
1883.....	0	11½	18	52
1882..... (Dec. 4)	4	13	39	40½
1881..... (Dec. 5) (Dec. 6½) (Dec. 5)	5	6½	5	6½
Chic., Mil. & St. P.:				
1883..... (Dec. 9½) (Dec. 8½)	9½	8½	9½	25
1882..... (Dec. 9½) (Dec. 4½)	9½	4½	20	39
1881..... (Dec. 9½) (Dec. 3)	9½	3	20	39
1880..... (Dec. 1½) (Dec. 14)	1½	14	21	44
Manitoba:				
1883.....	2½	27	50	38
1882..... (Dec. 6) (Dec. 2½)	6	2½	15	7
1881.....	7	25	57	31
1880..... (Dec. 14)	14	¾	27	10½
Northern Pacific:				
1883.....	10	35	54	80
1882..... (Dec. 1½)	1½	3	9½	17
1881..... (Dec. 4½)	4½	5	22½	39
1880..... (Dec. 2½) (Dec. 10)	2½	10	34	40

An inspection of these figures shows that the Missouri Pacific has usually a considerable gain in July over June, and in August its earnings are at the maximum; the Chicago & Alton, further north, also gains somewhat in July, and very largely in August, but does not reach its maximum till September, falling off somewhat in October. The Hannibal & St. Joseph, further north than one part of the Chicago & Alton, but further south than another large and important part of it, gains in July like it, but much more in August and September, in either of which months it may have its maximum earnings, and it also has a decrease (from September) in October. The Chicago, Burlington & Quincy, whose territory is but just south of the latitude of Chicago, sometimes gains and some-

times loses in July, gains decidedly, and in the last two years very largely, in August, and has reached its maximum in two years in September and in two in October.

Now, passing north of the latitude of Chicago, we find in most cases a decrease of earnings from June to July, always small gains in August by the Northwestern, the southernmost of the lines, but always decreases by the Milwaukee & St. Paul. In September there is usually a large gain on the Northwestern, and a somewhat smaller one on the St. Paul, and then the Manitoba reaches its maximum, which indicates that there is greater haste in marketing the crops on this the northernmost road, than further south. The Northern Pacific makes a very large gain in September also.

But the maximum earnings of all these roads north of the latitude of Chicago, except the Manitoba, are in October. This teaches that we may expect the effect of the new crops to be strongly indicated in the August earnings and slightly in the July earnings of the Chicago Burlington & Quincy and railroads further south, whose maximum earnings are usually either in August or September, though some of them have a few times had their maximum in October. On the Chicago & Northwestern and further north, however, the new crop has no effect on July earnings, except so far as its promise affects the marketing of the surplus of the old crop and general business. In August also there is little effect of the new crop to be felt on these lines, except possibly on the southernmost lines of the Northwestern and the St. Paul across Illinois and Iowa, and not much even there, what increase of grain shipments they may have then being chiefly due to the marketing of old stocks; it is not till September that we may look for a decided effect on the earnings of roads so far north by the harvest of the year, and not till October that we may expect to see its full effect.

We have had during the past week reports of July earnings from 11 additional railroads, much more important than the 21 reporting last week, as may be judged by the fact that the aggregate earnings of the 11 were 4½ times as great as those of the 21. Five of the 11 roads reporting this week show an increase over last year, but in the aggregate they have a decrease of 5 per cent. There are this week for the first time reports from important Eastern railroads. It is noticeable that two of these, the Eastern and the Northern Central, show small gains (3.6 and 0.6 per cent.), but the Reading has a decrease of 7 per cent., and the Pennsylvania a decrease of 3½ per cent. A Western trunk line connection that should have been profiting by the movement of new winter wheat almost from the beginning of July, the Ohio & Mississippi, reports the large decrease of 15 per cent. The Gulf, Colorado & Santa Fe, a new Texas road that should be developing its traffic, shows the large loss of 23½ per cent., which it is not easy to understand. The Memphis & Charleston, on the other hand, has a gain of 14½ per cent., while the South Carolina has the large loss of 21 per cent.

We have now had reports of earnings from 69 railroads, whose aggregate mileage and earnings and average earnings per mile were:

	1884.	1883.	Inc. or Dec.	P. c.
Miles.....	40,519	43,548	+ 2,977	6.4
Earnings.....	\$27,054,955	\$27,613,981	-\$559,026	2.0
Earn. per mile.....	546	501	+ 45	7.8

The total decrease is not large, and but for the fact that there has been an increase of 6½ per cent. in mileage it would not be at all important; but with the larger mileage larger expenses are incurred, and a decrease of 7½ per cent in earnings per mile is no trifle.

The discussion at the annual meeting of the Lumber Manufacturers' Association of the Northwest, last week, was a most valuable contribution to our knowledge of the present and prospective condition of business in the Northwest. Scarcely any definite statistics of production or stocks on hand were offered, but the opinion was unanimous that a great deal more lumber has been and is being made than can be sold, and after weighing the probable effect of the good crops of this season, the Association voted that mills should be closed this season as early as possible, and not later than Nov. 1, that there should be 40 per cent. less logs cut next winter than last year, and that the lumber cut of 1885 should not be more than 6,000,000,000 ft., against 7,500,000,000 ft. last year.

The persons present are said to have represented a capital of \$500,000,000, and came from all parts of the Northwestern lumber country—from Saginaw to Minneapolis—and their knowledge of the demand and supply must have been substantially complete, though of course their judgment of what the course of business will be in the future is liable to error. No one at the meeting seemed to count on any considerable in-

crease in the demand this year, though all agreed that the crops would be large, and persons who are closest to the Minnesota and Dakota markets were positive that the farmers there would have very little profit from their crops to spend for lumber, and thought that it would require more than one year for the lumber business to get into a healthy condition again. The great falling-off in new railroad construction has had a great effect on the demand for lumber, not only because new railroads themselves require much lumber, but because when railroads are extended through a new country, towns are started all along their lines which require much more than the railroads. The starting of new towns has been a great industry in Western Minnesota, Dakota and Northwestern Iowa for a few years, but it has almost ceased now, and the new towns grow very slowly, having in most cases been built in advance of a growth of the surrounding farming country sufficient to support them. Moreover, the immigration generally was less this year than heretofore; and the new buildings and fences in a new country always come, for the most part, not from profits made in that country, but from capital brought into it by the settlers or loaned to them. The profits on a crop, however abundant it may be, do not nearly equal the capital brought into a new country in a season of large immigration, so that if the latter falls off largely and suddenly, business may be very much duller than formerly, in spite of a great increase in the production of the country. This has been the experience of almost every new country. When first settled, if settled rapidly, there are large sales, because the settlers have everything to buy, and have brought money, usually the accumulated savings of years, to buy it with. Not for years afterward, even if prosperous, are they likely to buy as much again, especially of construction materials. In many and perhaps most cases, however, immigration does not fall off in amount, but becomes a less important factor in trade because the new arrivals are a smaller proportion of the total population. When Nebraska had but 40,000 inhabitants the arrival of 40,000 in a single year gave a tremendous stimulus to business. When there were 600,000 such an immigration was not much noticed. Not enough consideration is paid to the effect of the investment of accumulated savings, which is similar when it goes into new farm houses and fences and when it goes into new railroads, and cannot long continue beyond a certain rate.

Preparations are being pushed forward to open the International Electrical Exhibition in Philadelphia on the advertised date, Sept. 2, and as it is to be closed Oct. 11, it is to be hoped that the exhibitors will all be ready on the opening day. Many of the more recent applications of electricity are little known, and it is therefore especially desirable that ample opportunity should be given those desirous of studying the subject in the thorough and convenient manner possible only in a large collection of the best inventions.

The Chicago Exposition of Railway Appliances was deprived of much of its interest by the fact that some of the exhibits only arrived in the closing days of the exhibition. It is to be hoped that the Electrical Exposition at Philadelphia will not labor under similar disadvantages.

Professor M. B. Snyder has been elected Chairman of the Board of Examiners for this exhibition, and Mr. A. E. Outerbridge has been selected as Secretary.

The test laboratory will be situated in the old Pennsylvania Railroad depot, near the exhibition building, and will not be open to the public, but be reserved for the scientific work of the various committees.

The objects exhibited are divided into 29 different sections, for each of which there is a separate "section" of the Board of Examiners. The names of the persons appointed examiners include a great many professors and other men of reputation, among them such men as Dr. Barnard, of Columbia College; Prof. Henry Morton, of the Stevens Institute; Prof. Simon Newcomb, one of the most eminent of American scientific men; Prof. R. H. Thurston; Mr. Frank L. Pope and Mr. David Brooks, electrical engineers, and Dr. C. B. Dudley, Chemist of the Pennsylvania Railroad.

The juries or committees of award in international exhibitions are generally chosen from the different nationalities represented, and are thus also international in character, but in this case, the Board of Examiners appears to be wholly composed of persons residing in the United States. This arrangement does not seem calculated to attract foreign exhibitors, and if the latter are not represented, the title "international" should be dropped as misleading.

Cuts in through passenger rates from New York to Chicago and from Chicago to New York have become



general during the past week, but not at the railroad companies' ticket offices. They sell their tickets through scalpers with a large commission, supposed to be \$5 or \$6 on New York-Chicago tickets, and the scalpers sell to passengers at about \$3 below the regular rates. For some reason the railroad companies seem to think it impolitic to sell the tickets directly to the passengers at the reduced prices, possibly because they wish it to be understood that the cuts are made by their Western connections (as they have been sometimes); but this is not understood, and it seems to be generally believed that the trunk lines are paying the commissions themselves, and have deliberately begun the practice, and that they sell through scalpers because they think that it will be easier to restore rates than if they sold openly to everybody at the reduced rates.

The newspapers generally say that the cuts are made because the West Shore road, in connection with the Grand Trunk, has been cutting and has diverted a considerable part of the travel. That it has been cutting is probably true. It is not in the pool, and is trying to establish a business. But the amount of through travel that it has had so far has hardly been great enough to alarm its older rivals, or to lead them to destroy the value of the through business just as it is becoming large. Neither of the two new roads has much through travel. They have few through trains, and these trains are not large.

But the action of the railroads in selling through scalpers shows that there is some trouble so serious that at least one of the roads thinks it warrants severe measures. Without knowing definitely what this trouble is, we suspect that it is the paying of commissions or other reduction of rates by one of the old trunk lines in the pool; and that the open cutting of rates this week—for, apparently, pains have been taken to publish it and none to conceal it—is intended to prove that such a policy will prove unprofitable, and so put an end to it. It is very difficult to believe that the railroads are deliberately preparing to destroy the value of the heavy fall travel, and almost impossible to believe that they are doing so because the West Shore road has been getting some of the passengers, as it was bound to do in any event; and the general feeling seems to be that the present cut rates are a necessary medicine.

The Pennsylvania adheres to its policy of paying no commissions, and consequently cheap tickets are not to be had over its lines. The natural effect of that will be to turn its through travel to the roads which do pay commissions. It is not likely to endure this long, and if the trouble continues it may feel compelled to meet the scalpers' rates at its own ticket offices.

It must be remembered, however, that the passenger earnings of the trunk lines are pooled, and this pool is not affected by this cutting of prices of tickets, nor was it by the dissolution of the pool of the Western roads. This does not prevent a reduction of profits by cut rates, but it does prevent one company's getting a larger share of the total passenger earnings by cutting rates while the other roads maintain them. This makes a temporary diversion of travel a matter of comparative indifference.

The grain movement to the Northwestern markets suddenly became very large in the week ending Aug. 16, when the increase over the previous week was no less than 59 per cent., and the receipts rank with those of the best weeks of the best years, having been 8,445,860 bushels, which have been equaled only in the following weeks:

1883:	Bushels.	1880:	Bushels.
Week to Sept. 1....	9,163,388	Week to Aug. 31....	8,555,570
" " 8....	9,805,091	" " Oct. 2....	9,171,857
" " 15....	9,009,993	" " 9....	9,214,924
" " 22....	8,687,256	" " 16....	9,274,351
1881:		" " 23....	8,666,749
Week to Sept. 3....	8,520,758	1878:	
1880:		Week to Aug. 24 ..	9,015,180
Week to May 29....	8,806,172	" " 31 ..	8,790,893
" " July 31....	9,393,826	" " Sept. 7....	8,462,587
Week to ..	Bushels.	Week to ..	Bushels.
Sept. 1, 1883.....	9,163,388	Oct. 2, 1880.....	9,171,857
" 8, " ..	9,805,091	" 9, " ..	9,214,924
" 15, " ..	9,009,993	" 16, " ..	9,274,351
" 22, " ..	8,687,256	" 23, " ..	8,666,749
Sept. 3, 1881.....	8,520,758	Aug. 24, 1878.....	9,015,180
May 29, 1880.....	8,806,172	" 31, " ..	8,790,893
July 31, " ..	9,393,826	Sept. 7, " ..	8,462,587
Aug. 28, " ..	8,555,570		

The great receipts in the second week of August this year were caused more by a free movement of corn and oats than by a very great increase in the wheat receipts, which, however, were much the largest of the season. These have been for six weeks, in bushels:

Week ending—	July 12.	July 19.	July 26.	Aug. 2.	Aug. 9.	Aug. 16.
	757,021	988,743	1,385,641	2,112,715	2,586,210	3,697,606

Only about one-third of the increase in the total grain receipts in this last week was wheat.

The shipments of these markets did not increase in this last week nearly as much as their receipts, and

stocks are accumulating rapidly, and the seaboard receipts are actually decreasing, though when there has been time for the shipments of this week to Aug. 16 to reach the seaboard an increase is probable. Probable, but not certain, for the shipments are largely absorbed before reaching the Atlantic. The Atlantic receipts are unusually light for the season, and the large Baltimore wheat receipts noted a few weeks ago have very greatly decreased, having been in successive weeks:

July 12.	July 19.	July 26.	Aug. 2.	Aug. 9.	Aug. 16.
405,774	437,921	1,003,280	1,411,448	811,441	578,652

This indicates that the Ohio Valley, from which Baltimore very largely receives its supplies, is no longer in haste to market its surplus, which is not very large this year, and will be chiefly required for home consumption.

The Chicago through shipments eastward in July, by the complete report, have been as follows for the past six years, in tons.

1879.	1880.	1881.	1882.	1883.	1884.
145,788	160,187	259,353	95,030	138,656	152,828

The shipments this year, it should be remembered, include those from Joliet, Engelwood and some other junction points near Chicago which were not included in previous years. These probably made up the larger part of the increase over last year; but neglecting them, the shipments were 10½ per cent. more than last year, 61 per cent. more than in 1882, 40 per cent. less than in 1881 (with a 15 cent. rate), 4½ per cent. less than in 1880, and 5 per cent. more than in 1879. This is the first month in which both the new roads were open last year. The old roads now get about four-fifths of the present traffic, so their share this year was about 122,263, which is less than in any of the three years previous to 1882. The shipments this year were made at 20 and 25 cents per 100 lbs. for grain to New York, which is less than in any previous year except 1881, when the rate was 15 cents, and 1879, when it was 20 cents all the month.

For the seven months ending with July the Chicago through shipments have been:

1879.	1880.	1881.	1882.	1883.	1884.
1,633,930	1,344,766	1,628,789	1,191,197	1,399,391	1,764,353

The shipments this year were thus larger than in any previous year, and were 26 per cent. more than last year and 48 per cent. more than in 1882. While the whole gain over last year was 364,962 tons, in the three months ending with June, while the 15-cent rate prevailed, the increase was no less than 530,926 tons. Unquestionably, then, the gain was due to the low rates, and made by taking freight from the lake vessels, as it further appears from the fact that the total shipments from Chicago have been smaller than usual rather than larger than usual. The shipments of these three months of the 15-cent rate were:

1879.	1880.	1881.	1882.	1883.	1884.
838,631	535,077	689,312	370,049	445,987	976,900

The shipments in July have usually been the smallest of the year, but last year they were nearly the same as in June. This year they were 46 per cent. less than in June, and the decrease of 129,337 is the greatest there has ever been from one month to another, except from March to April last year.

The through shipments so far reported for August indicate that for the whole of that month they will not be larger than last year. For the first two weeks of the month they were 61,217 tons, against 65,919 tons last year (at the same 25-cent. rate), 47,734 in 1882, 110,981 in 1881 (at 15 cents), and 81,435 in 1880, the shipments of the junction points not having been included until this year.

The arbitrators to whom an appeal was taken from Mr. Fink's last apportionment of live stock and freight shipments from Chicago, have awarded the Chicago & Grand Trunk a percentage which is very unsatisfactory to it, and statements have been published that the Grand Trunk "will not accept" the award. By the contract of the co-operating railroads, however, they all accept the awards of their arbitrators before they are made, and therefore the Chicago & Grand Trunk is bound by this one so long as it remains in the pool. But it can withdraw on giving 90 days' notice, and withdrawal would be an effective refusal to accept the award.

It seems that the arbitrators (Mr. Adams, Mr. Riddle and Mr. Gault) awarded to the Grand Trunk a considerably smaller percentage of the traffic than was given it by Mr. Fink in his preliminary award. But they did this partly, at least, on the ground that the revision of the apportionment was called for because of certain definitely-named changes in the circumstances affecting traffic. Now, when Mr. Fink took up the matter he refused to be limited by the specifically-named changes, but made his award in consideration of the entire circumstances, in which

there had been changes not mentioned in the call for a new apportionment. But the arbitrators felt themselves limited to the consideration of the causes of change mentioned. That is, the court has awarded certain allowances for which the Grand Trunk sued, but has declined to award it certain other allowances which, on trial, it claimed as its due, because it did not sue for them.

This being so, it cannot be said that justice has been denied, because any road can, at any time, prefer any claims for an addition to its share of traffic, if they have not already been adjudicated. The Grand Trunk is bound to abide by the decision of the arbitrators, but only as to the questions which they decided.

New York shipments westward usually are much larger in August than in July. They were 18 per cent. more last year, 48 per cent. more in 1882, 70 per cent. more in 1881 (but with a great reduction in rates), and 20 per cent. more in 1880. In the first two weeks of the month this year they were about the same as last year above the July average, but were considerably less than in the corresponding weeks of last year.

The Lake Shore's report to the New York Railroad Commission for the quarter ending with June, is not at all a cheerful document, though more so than the New York Central's. After paying expenses, interest, taxes, rentals, and the dividend on the small amount of preferred stock (which latter required but \$13,300), there was left a profit of 95 cents per share of common stock. This was the quarter of the 15-cent rate, when there was a large traffic without profit.

Mr. John King, who has been elected Assistant President of the Erie Company, with the understanding that he shall be elected President on the retirement of Mr. Jewett next November, accepted under the assurance that the money required to retire the company's floating debt will be provided. This will relieve the executive of the company of a great incubus, and make the position much less embarrassing, at least for the present. It does not yet appear how the money required will be raised, but it is to be presumed that it will form another addition to the fixed charges, which are already burdensome when traffic is not good. It will be much better in this shape than as a floating debt, however.

It is nothing less than a misfortune that the control of this company is now exercised by the common stock, whose prospects for dividends are very remote. It is always a misfortune when the control of an enterprise is in the hands of those who get no return from it and have no immediate expectation of getting any. Such stocks are held and used chiefly for speculative purposes, for the number of persons is extremely small who will invest largely in shares which they expect to make valuable by a growth and development and care lasting for years. On the contrary, the majority of the shareholders are likely to welcome any policy which temporarily advances the price of the stock, as it is to the Stock Exchange and not to the road that they look for their dividends.

The Erie board, in providing a successor to Mr. Jewett, showed their appreciation of his services by directing that when he retires from the office of President, a contract be made with him "whereby his counsel, advice and aid in the management of the affairs of this company may be secured, as Chairman of the Executive Committee or otherwise, for the term of one year, \* \* at his present salary."

#### The New Chicago Apportionment.

The award of the arbitrators making a new apportionment of the Chicago through shipments eastward has just been made public. The new apportionment was called for, first because of the transfer, Jan. 9, of the National Despatch freight line from the Michigan Central to the Chicago & Grand Trunk, and second, to complete the transfer of dressed beef from the freight to the live stock pool. It had formerly been treated as live stock in shipments to New England only. The award covers shipments since Jan. 8.

The percentages previous to Jan. 9 (including shipments from junction points near Chicago), the preliminary award by Mr. Fink and the award of the arbitrators are:

	Freight.			Live stock.		
	Old.	Mr. Fink's.	New.	Old.	Mr. Fink's.	New.
C. & Grand Tr.	12.0	14.7	13.0	12.0	19.4	19.0
Mich. Cen.	23.0	19.0	20.0	17.0	17.5	16.5
Lake Shore	15.5	16.0	16.0	26.0	22.0	24.0
Nickel Plate	7.0	7.6	7.5	7.5	8.4	7.0
Ft. Wayne	17.5	19.0	19.5	14.0	12.2	12.0
C. St. L. & P.	9.0	8.1	8.0	8.0	6.1	6.0
Balt. & Ohio	6.0	6.6	6.0	5.5	4.7	5.5
Ch. & Atlantic	10.0	9.0	10.0	10.0	9.7	10.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

Compared with the last actual apportionment (headed "old") the Chicago & Grand Trunk gains 1 per cent. of the freight, the Lake Shore ½, the Nickel Plate ½, the Fort Wayne 2, while the Michigan Central loses 3, and the Chicago, St. Louis & Pittsburgh 1. In live stock the Chicago & Grand Trunk gained 7 (the National Despatch carries, we



believe, a very large part of the dressed beef going to New England, and classed as live stock), while the Michigan Central loses  $\frac{1}{4}$ , the Lake Shore 2, the Fort Wayne 2, the Chicago, St. Louis & Pittsburgh 2, and the Nickel Plate  $\frac{1}{2}$ .

The arbitrators' award differs from Mr. Fink's award chiefly by giving 1 per cent. more freight to the Michigan Central and the Chicago & Atlantic, and 1.7 per cent. less to the Chicago & Grand Trunk. In live stock it gave 2 per cent. more to the Lake Shore, 1 per cent. less to the Michigan Central, 1.4 less to the Nickel Plate, and made other smaller changes.

The transfer of dressed beef to the live stock pool and the including of junction points now make it impossible to compare the percentages with previous apportionments precisely, but it will be interesting to put them by the side of the earlier ones. The apportionment June 1, 1880, and that of freight in force previously were:

	Mich.	Lake	St. L.	C. & A.	Ch. & G. T.	N. P.	B. & O.
June 1, '80: Grand T. Cen. Shore. Wayne. & P. B. & O.							
Freight.....	10	26	23	23	10	8	8
Live stock.....	6	26	36	26	..	..	6
Before June 1, 1880:							
Freight.....	31	26	25	10	8		

The inclusion of the shipments now adds to the percentage of the Michigan Central chiefly. Before they were included it was awarded 18 $\frac{1}{2}$  per cent. of the shipments (dating from July 1, 1883), but afterwards 23 per cent. This is because of the large amount of Chicago & Alton and Illinois Central traffic brought to it over its Joliet cut-off.

By the new award the three principal old roads are given more freight than the Grand Trunk, but only one of them, the Lake Shore, receives more live stock, of which the Grand Trunk is awarded more than goes to both of the Pennsylvania roads. Its traffic is not cattle but chiefly dressed beef, a business which it has expressly cultivated.

#### July Accidents.

Our record of train accidents in July, given in full elsewhere, contains brief accounts of 36 collisions, 46 derailments and 7 other accidents, a total of 89 accidents, in which 25 persons were killed and 142 injured.

As compared with July, 1883, there was a decrease of 30 accidents, of 32 in the number killed and of 62 in that injured.

These accidents may be classed as to their nature and causes as follows:

<b>COLLISIONS:</b>			
Rear.....	25		
Butting.....	10		
Crossing.....	1		
<b>DERAILMENTS:</b>			
Broken bridge.....	5		
Spreading of rail.....	6		
Broken wheel.....	1		
Broken axle.....	2		
Broken truck.....	2		
Accidental obstruction.....	2		
Cattle on track.....	4		
Land-slide.....	2		
Wash-out.....	1		
Runaway engine.....	1		
Misplaced switch.....	4		
Rail purposely removed.....	1		
Unexplained.....	15		
<b>OTHER ACCIDENTS:</b>			
Boiler explosions.....	3		
Broken coupling-rod.....	1		
Accidental obstruction not causing derailment.....	1		
Explosion of dynamite.....	1		
<b>Total.....</b>	<b>89</b>		

Four collisions were caused by trains breaking in two; four by misplaced switches; two by the wrecking of other trains; one each by fog, by a runaway engine, by failure to use signals, by mistakes in giving or receiving orders and by a car left standing on the train track.

A general classification of these accidents may be made as follows:

	Collisions.	Derailments.	Other.	Total.
Defects of road.....	11	5	4	20
Defects of equipment.....	4	5	4	13
Negligence in operating.....	29	4	..	33
Unforeseen obstructions.....	3	10	3	16
Maliciously caused.....	..	1	..	1
Unexplained.....	..	15	..	15
<b>Total.....</b>	<b>36</b>	<b>46</b>	<b>7</b>	<b>89</b>

Negligence in operating was thus the direct cause of 37 per cent. of all the accidents, exactly the same proportion as in the month of June.

A division according to classes of trains and accidents is as follows:

	Collisions.	Derailments.	Other.	Total.
<b>Accidents:</b>				
To passenger trains.....	3	12	3	18
To a pass. and a freight.....	10	..	..	10
To freight trains.....	23	34	4	61
<b>Total.....</b>	<b>36</b>	<b>46</b>	<b>7</b>	<b>89</b>

This shows accidents to a total of 125 trains, of which 31, or 24.8 per cent., were passenger trains, and 94, or 75.2 per cent., were freight trains.

Of the total number of accidents 64 are recorded as happening in daylight and 25 at night, showing, for some unexplained cause, a very small proportion of night accidents.

The persons killed and injured were as follows:

	Killed.			Injured.		
	Em-ployés.	Others.	Total.	Em-ployés.	Others.	Total.
In collisions.....	6	2	8	12	31	43
In derailments.....	7	1	8	22	42	64
In other accidents.....	9	..	9	35	..	35
<b>Total.....</b>	<b>22</b>	<b>3</b>	<b>25</b>	<b>69</b>	<b>73</b>	<b>142</b>

Employés thus formed 88 per cent. of the killed, 49 per cent. of the injured and 54 per cent. of the whole number of casualties.

Of the broken bridges recorded two failed on account of fires which had partially destroyed or weakened the stringers of the bridge. All the bridges which broke

down were wooden structures, the largest being a Howe truss of 160 ft. span.

Misplaced switches were the cause of eight accidents, four collisions and four derailments, which is hardly up to the usual number. There were four collisions caused by trains breaking in two.

The number of accidents was not large for a summer month. In most parts of the country the weather was rather favorable than otherwise, not many heavy rain storms being recorded and very few accidents from wash-outs and land-slides. There was also, fortunately, an entire absence of the excursion train accidents which we are accustomed to look for at this season, and which are often very fatal.

A somewhat unusual feature for a summer month was the occurrence of no less than three boiler explosions. Whatever may be the reason, and it must be confessed that authorities on this point differ very widely, it is beyond doubt a fact that the boiler explosions are generally more frequent in cold weather than during the summer months. Last month three were recorded, and it is possible that a clue to this may possibly be found in the fact that we are now passing through a period of depression in business and light earnings, when too many railroad companies are apt to neglect repairs of rolling stock, cutting down their shop expenses to the lowest possible point. This practice of course saves money only temporarily, but it is nevertheless often resorted to, and a careful comparison of the accident record for a number of years shows that there has been invariably an increase in accidents resulting from defects of equipment, and especially from defects in locomotive equipment, after a period of light earnings.

One very unusual accident in the record was the destruction of a work train on the Denver & Rio Grande road by an explosion of dynamite. We can now recall but one accident of this description in all the years in which this record has been kept, and that was comparatively a slight one.

An unusually fatal accident was the boiler explosion on the Lehigh Valley road in which every man on the engine was killed, leaving no survivor to tell the story of the accident or to warn following trains. No similar case is on record.

For the year ending with July the record is as follows:

	Accidents.	Killed.	Injured.
August.....	144	42	136
September.....	158	44	183
October.....	174	43	234
November.....	122	34	235
December.....	112	32	113
January.....	147	56	240
February.....	110	22	150
March.....	115	26	112
April.....	88	19	108
May.....	76	32	150
June.....	71	40	103
July.....	89	25	142
<b>Total.....</b>	<b>1,406</b>	<b>415</b>	<b>1,906</b>
<b>Total, same months, 1882-83.....</b>	<b>1,631</b>	<b>470</b>	<b>1,836</b>
<b>" " " 1881-82.....</b>	<b>1,313</b>	<b>392</b>	<b>1,407</b>
<b>" " " 1880-81.....</b>	<b>1,444</b>	<b>412</b>	<b>1,665</b>

The yearly average for the four years is 1,494 accidents, 422 killed and 1,719 injured. Last year was below the average except in the number injured.

The averages per month for the year were 117 accidents, 35 killed and 164 injured, so that July was below the average in all respects.

The averages per day were, for June, 2.87 accidents, 0.81 killed and 4.58 injured; for the year, 3.84 accidents, 1.13 killed and 5.37 injured.

The average casualties per accident for the month were 0.281 killed and 1.595 injured; for the year they were 0.295 killed and 1.398 injured, thus indicating a more than average number of persons injured for the month.

#### Pennsylvania Railroad July Earnings.

The report of the earnings and expenses of the Pennsylvania Railroad in July shows for the lines east of Pittsburgh and Erie an increase in gross earnings and a large increase in net earnings as compared with June, and on the lines west of Pittsburgh and Erie there was a small profit over all liabilities, instead of a loss of \$361,000 as in June. Our analysis of the June statement, however, exaggerated the decrease in the returns of these lines as compared with last year, as there was then also a loss and not a gain on them.

For the month of July the earnings and expenses of the lines east of Pittsburgh and Erie were:

	1884.	1883.	Decrease.	P. c.
Gross earn.....	\$3,980,085	\$4,130,950	\$150,865	3.4
Expenses.....	2,597,969	2,638,216	40,247	1.5
<b>Net earn.....</b>	<b>\$1,391,116</b>	<b>\$1,492,734</b>	<b>\$101,618</b>	<b>6.8</b>

The percentage of decrease in gross earnings is small, but in net earnings it is considerable, though it amounts to less than  $\frac{1}{2}$  per cent. on the capital stock.

For 12 successive years the earnings and expenses of the lines east of Pittsburgh and Erie have been:

Year.	Gross earnings.	Expenses.	Net earnings.
1873.....	\$3,203,462	\$2,251,913	\$951,549
1874.....	3,181,785	1,961,160	1,220,625
1875.....	3,073,103	1,913,126	1,159,977
1876.....	2,921,284	1,857,589	1,063,695
1877.....	1,880,337	1,400,976	479,361
1878.....	2,536,733	1,485,670	1,051,063
1879.....	2,782,906	1,783,291	999,615
1880.....	3,449,644	2,147,139	1,302,505
1881.....	3,780,418	2,289,447	1,490,971
1882.....	4,149,150	2,502,057	1,647,093
1883.....	4,130,950	2,638,216	1,492,734
1884.....	3,980,085	2,597,969	1,391,116

The gross earnings this year were exceeded only in last year and the year before, and not largely then, but the working expenses were lower this year than in any other except last year, and the net earnings are not only \$101,618

less than last year but are \$255,977 less than in 1882 and \$99,855 less than in 1881.

The lines west of Pittsburgh and Erie have shown the following results in July, the sums being the surplus over all liabilities for interest, rental, etc., or the deficit:

1879.	1880.	1881.	1882.	1883.	1884.
Deficit.	Surplus.	Surplus.	Surplus.	Surplus.	Surplus.
\$3,421	\$316,823	\$231,007	\$318,567	\$121,972	\$3,168

Thus the result on the Western system is the least favorable since 1879, and compared with last year there was a decrease in the profit from them amounting to \$118,804, which is something more than the decrease in net earnings of the Eastern system.

The gross and net earnings and working expenses of the lines east of Pittsburgh and Erie for the seven months ending with July for eight successive years have been:

Year.	Gross earnings.	Expenses.	Net earnings.
1877.....	\$16,216,733	\$11,007,953	\$5,208,780
1878.....	16,988,671	10,591,710	6,396,961
1879.....	18,196,094	11,351,404	6,845,470
1880.....	22,883,715	13,486,801	9,396,914
1881.....	25,334,257	14,846,132	10,488,125
1882.....	26,799,999	16,962,783	9,837,216
1883.....	28,483,532	18,471,971	10,011,561
1884.....	27,322,337	17,818,978	9,503,359

Compared with last year the decreases are:

Amount	Gross earnings.	Expenses.	Net earnings.
Per cent.....	4.1	3.5	5.07

The changes, considering the large amounts of the totals, are not large, and the decrease in net earnings is little more than  $\frac{1}{2}$  per cent. on the company's capital stock; but, as we shall see, the decrease on the Western system was twice as great as this. Gross earnings and expenses were larger this year than in any other except last year, but the net earnings were the smallest since 1880, the working expenses having been 64.3 per cent. of the earnings this year, against 58.9 in 1880.

The surplus or deficit of the lines west of Pittsburgh and Erie, for the seven months ending with July, has been for six years:

1879.	1880.	1881.	1882.	1883.	1884.
Deficit.	Surplus.	Surplus.	Surplus.	Surplus.	Deficit.
\$422,758	\$1,679,930	\$1,755,870	\$355,030	\$337,646	\$721,322

Thus the result is less favorable this year than in any other, there being a decrease of more than a million compared with last year and the year before, of \$2,477,000 compared with 1881, and of \$2,379,000 compared with 1880.

Adding the surplus and subtracting the deficit of these lines to and from the net earnings of the system east of Pittsburgh and Erie, we have as the profits of the Pennsylvania Railroad Company from the two systems:

1879.	1880.	1881.	1882.	1883.	1884.
\$6,422,712	\$10,192,246	\$10,349,207	\$7,822,057		

Thus compared with last year there is a decrease of \$1,567,170 in the profits, which is about  $\frac{1}{5}$  per cent. on the present capital stock. Compared with 1881, the decrease is \$3,461,959, or 3.6 per cent. on the present capital stock, and  $\frac{1}{2}$  per cent. on the stock outstanding in 1881.

The through and local eastward shipments from Chicago of flour, grain and provisions for the week ending Aug. 23, by the incomplete report to the Board of Trade, were 34,465 tons, against 35,465 tons in the corresponding week of last year, and 28,959 in the corresponding week of 1882. The shipments and the percentages given by each road for six successive weeks have been:

	Week ending—	July 19.	July 26.	Aug. 2.	Aug. 9.	Aug. 16.	Aug. 23.
<b>Tons:</b>							
Flour.....		3,809	3,527	3,410	3,313	3,849	3,425
Grain.....		18,461	20,726	14,492	13,004	16,754	23,298
Provisions.....		6,826	7,605	6,512	6,643	8,300	7,712
<b>Total.....</b>		<b>30,896</b>	<b>31,858</b>	<b>24,423</b>	<b>22,969</b>	<b>28,912</b>	<b>34,405</b>
<b>Per cent.:</b>							
C. & Grand T.....		12.9	15.2	12.2	10.7	17.6	13.5
Mich. Cen.....		11.8	10.0	9.1	11.0	14.2	11.8
Lake Shore.....		19.3	18.2	17.8	18.2	16.0	21.2
Nickel Plate.....		9.8	14.0	9.5	9.8	11.4	12.2
Ft. Wayne.....		21.4	17.9	18.1	17.1	15.9	18.6
St. L. & P.....		5.0	5.5	7.3	6.2	7.0	6.3
Balt. & Ohio.....		8.4	9.0	11.9	10.3	8.6	7.9
Ch. & Atlantic.....		10.8	10.2	10.1	9.5	9.3	8.5
<b>Total.....</b>		<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Thus the increase last week over the previous week was 19 per cent., and the shipments were then the largest since June, when the 15-cent rate prevailed. The increase over the previous week was wholly in grain, the flour and provision shipments having fallen off. Shipments began to increase materially at just about the same time last year and in 1882, and they may well be as large this year as in either of those years, if not larger, especially when the spring wheat of Minnesota and Dakota begins to come forward. But the shipments are decidedly smaller than in 1881 at this time, when the rate was but  $12\frac{1}{2}$  or 15 cents, and not more than in 1880, when 30 cents was obtained.

The percentages carried by the different roads show a marked change last week, chiefly a large falling-off in the share of the Chicago & Grand Trunk, and a gain by the Lake Shore and Fort Wayne. We noted last week that the Grand Trunk's shipments for some weeks have been very largely provisions. Now last week the provision shipments fell off, while the grain shipments, of which the Grand Trunk has but a small share, increased largely. The Grand Trunk still leads in provision shipments, though close pressed by the Fort Wayne. The large grain shipments went chiefly by the Lake Shore (26 per cent.), the Fort Wayne (16 $\frac{1}{2}$  per cent.) and the Nickel Plate (15 $\frac{1}{2}$  per cent.).

The large grain receipts at Chicago now give material for very large rail shipments. It is not certain, however, that the rail movement will be large. The lake vessels have not yet had traffic enough offered to keep them well employed, or to advance materially the very low rates of the season.



Very much larger surplus crops than have been harvested this year were forwarded in 1879 and 1880 by fewer lines than are now existing, and larger surpluses than there will be this year until winter at least.

Increased shipments of lumber are reported from Chicago during the third week of August. It is noticeable, however, that cars are plentifully supplied for the trade this year, while heretofore when the fall business began cars have usually been hard to get.

At the lumber manufacturers' convention in Chicago last week, one speaker estimated the stock on hand to be 450,000,000 ft. more than last year, which is about 6 per cent. of last year's cut.

Minneapolis, which has doubtless grown faster than any other considerable city in the country for several years past, seems to be moving slower now. A lumberman of that place at the convention in Chicago said that in 1882 the lumber consumption in that city was about 160,000,000 ft.; in 1883 nearly 150,000,000; while this year it will apparently be but about 100,000,000 ft., and he estimated that it would not be more than 50,000,000 next year; but that must have been a guess rather than an estimate.

#### Record of New Railroad Construction.

This number of the *Railroad Gazette* contains information of the laying of track on new railroads as follows:

*Burlington, Cedar Rapids & Northern*.—A branch has been completed from Dows, Ia., north to Garner, 33 miles.

*Cincinnati & Eastern*.—Extended from Rushtown, O., east to Portsmouth, 6 miles.

*Louisville, New Orleans & Texas*.—Extended from Porter Bayou, Miss., northward 25 miles.

*Oregon Railway & Navigation Co.*—This company's *Baker City Branch* is extended from La Grande, Oregon, southeast 65 miles.

*Western North Carolina*.—The *Ducktown Branch* is extended from Charleston, N. C., west to the Nantahala River, 10 miles.

This is a total of 139 miles of new railroad, making 2,243 miles reported to date for the current year. The total track reported laid to the corresponding date for 18 years past is as follows:

	Miles.		Miles.
1864.....	2,243	1877.....	1,108
1865.....	3,337	1878.....	1,388
1866.....	6,544	1879.....	675
1867.....	3,719	1880.....	984
1868.....	2,950	1881.....	2,126
1869.....	1,599	1882.....	4,204
1870.....	1,123		

These statements include main track only, no account being taken of second tracks or other additional tracks or sidings.

#### Railroad Legislation in Italy.

##### II.

The commission of 1878 went to work systematically. It began by circulating throughout Italy, among all classes of men who had anything to do with railroads, a series of nearly two hundred printed questions, to any or all of which they invited answers, oral or written. To show the scope of these questions, we give the main headings under which they are arranged:

1, Company's organization; 2, Working organization; 3, Road, equipment, fuel; 4, Freight and passenger traffic; 5, Expenses of operation and maintenance; 6, Rates; 7, Government interference; 8, Private management of state railroads; 9, State management of state railroads; 10, The proposed contracts of Spaventa and Depretis; 11, General questions of policy. These were followed by a set of questions on the strategic aspect of the railroad system—a point of great importance in Italy.

Every effort was made to set people thinking on the subject, and to receive answers from all quarters. The questions were made so precise that a man who had one piece of special information might send an answer to one question and let the rest go. An enormous mass of material was thus collected; and it was not until the year 1881 that the Commission was able to finish its work. The result of its labors is embodied in seven quarto volumes. Three contain the oral testimony; three more give a digest of the written answers and other material used; the seventh is the report itself. In connection with this immense work, lasting between two and three years, it is interesting to know that the total expense involved was about \$27,000.

The three volumes of oral testimony are of no great interest outside of Italy. It is not so with the digest of materials. This takes up railroad problems in their more general aspects, making use of documents and information from almost every country in Europe. There are detailed studies of the working of state railroad management; of the different forms of government interference; of variations in operating expenses; of the theory of railroad rates, and the probable effect of any changes; with numberless other points of general interest. It is a pity that the fact of its being written in Italian will make it unavailable for so many who might otherwise be glad to use it.\*

The outcome of these studies was the rejection by the Commission of the idea that it was a proper function of the state to run railroads.

There had been no lack of argument brought before the Commission in favor of a state railroad system. There were the general arguments, about monopoly, speculation, arbitrary power, with which we are all familiar. There were

special arguments which applied to Italy alone. There were strong men to back them; but both the men and the arguments on the other side were stronger. It is a noticeable fact that the majority of the chambers of commerce were opposed to government management; especially strong was this opposition from the Chamber of Commerce of Milan, probably the place where both systems had been tried most fully.

The more interesting points in the report may be summed up as follows:

1. Most of the pleas for state management are based upon the idea that the state would perform many services much cheaper than they are performed by private companies. This is a mistake. The tendency is decidedly the other way. Private companies can do for their patrons a good many things which the state cannot; but it is doubtful whether the state would be justified in doing anything of the sort, which private companies cannot. The state is much more likely to attempt to tax industry than to foster it. And when it attempts to tax industry it is more omnipotent and less responsible than a private corporation.

2. State management is more costly than private management. Such at least was the conclusion of the Commission, on comparing the results of the two systems. The differences which they bring out are quite marked, though it is fairly open to question just how much they prove. Comparing state and private railroads in different countries, they find that the ratio of operating expenses to gross earnings is always greater on state railroads—averaging 11 per cent. more in all the countries compared. In their more detailed comparisons, the Commission take carefully into account the various elements which involve cost of handling; but unfortunately they do not take up the question whether the rates charged on the state railroads in question may not be lower than on the private railroads—a thing which would make the percentage look unfavorable, and yet be rather a credit to the management than otherwise. We cannot, therefore, accept this point without reserve.

3. The political dangers would be very great. Politics would corrupt the railroad management, and the railroad management would corrupt politics. These effects have already been seen in actual working. Changes of rates are made for the sake of influencing elections. A questionable experiment was recently made in Belgium in the matter of railroad tariffs; it had been adopted by the government as a means of currying popular favor—a kind of bribery to which there is great temptation. It would not be hard to find similar instances in other countries on both sides of the Atlantic.

If then the state railroads are to be operated by private companies, we come back to the question, on what terms? Lease, or salaried management at the risk of the state? As between the two, the Commission preferred the idea of lease, but it did not commit itself to either; it chose a middle ground, devising an elaborate scheme of participation of earnings. The leading ideas of this scheme are embodied in the bill now before the Italian Parliament.

While the Commission was studying the question, matters were coming to the point where practical solution was growing every hour more necessary.

1. Where the companies were still managing, the rolling stock began to give out. The companies whose roads had been purchased by the state were still in part operating them provisionally from year to year; but they never knew what turn Italian railroad policy might take, so that no one was ready to spend any money now for the sake of the future interests of the roads. The rolling stock had not kept pace with the growth of business; on many lines they were not even attending to renewals. As a result, cars and engines were wearing out very fast; they were already inadequate to the public service, and were growing worse each year.

2. Where the state tried to manage its own roads, it was making a bad failure. This was specially noticeable in the railroads of North Italy. For two or three years after the purchase by the state, the company had continued provisionally to run the roads. But in July, 1878, just the time when the Commission was appointed, the road was taken out of their hands altogether, and run by the state directly. The ministry were going to show people how to run a railroad, and prove that the state could do it better than anybody else. Unfortunately the event proved just the opposite. The road began to go to pieces. Before the change, the personnel of the railroad officials had been first-rate, and animated by a vigorous spirit of activity; after the change their character went down, their activity slackened. With the same resources they were no longer able to handle the same business. There was a time when the freight service of Lombardy was suspended for everything but perishable goods simply because the road could not manage the freight that was offered.

3. There were important financial reasons for a change. The public treasury was in trouble, as is apt to be the case in Italy. In the hard-won resumption of specie payments, it had exhausted all its power. There were no reserve resources. Everything was taxed as high as it would bear; most things rather higher. The Government bonds were so depreciated that it could not borrow money except at a great disadvantage. We have seen how many years it took them to find the means of carrying out their contract to purchase the Roman railroad. The Southern railroad was still unpaid for. Some 3,000 miles of new railroad construction, in addition to the 5,000 miles already existing, had been voted in 1879; but the work was languishing for lack of funds. It was found almost impossible to make the necessary additions to the rolling stock of the existing railroads. Such were the financial elements of the problem—apparently rather a hope-

less one; the state could get no money, the railroads were not particularly profitable: required, an arrangement by which the state should get the money it needed for improvements and extensions, and at the same time make arrangements for the running of the railroads which should be satisfactory to both parties.

The Minister of Public Works tried to gain time by delay, but only made matters worse. The Southern Railroad declared that it could not allow the state to defer payment any longer, and that the state had forfeited its right to buy the road on the terms agreed. The result has been that in order to control the road without owning it, the state will have to pay the stockholders a larger sum annually than the interest on the purchase money at the agreed price.

While matters were in this state, about a year ago, the office of Minister of Public Works was offered to the man who had been Secretary of the Commission of 1878. He went to work vigorously; conferred again and again with railroad men and financiers, and, as a result, came forward this spring with the bill which is now under discussion and seems likely to pass. Its main features are as follows:

1. The roads are to be operated for thirty, or, perhaps, sixty years by two companies, nearly equal in strength, each controlling a trunk line system running northwest and southeast. They are to buy at a valuation (at a minimum of about \$50,000,000) the rolling stock now owned by the state. They will keep it in repair at their own charge as part of ordinary operating expenses, but will be entitled to receive interest from the state on the sum paid for it. By this sale the state will have a sum of money immediately available for the necessary improvements and extensions it has so long wanted to make. There are provisions by which the operating companies are to aid in this construction, borrowing money for that purpose.

2. The companies then are to pay for ordinary repairs of rolling stock; but what about repairs of line, or about extraordinary expenditures? It is hard enough for any railroad to decide what should be charged to maintenance, and what to construction account, even when the two must ultimately come out of the same pocket; but if the railroad had to pay the maintenance and the government the construction, the case would be infinitely worse. The attempt to decide what should be charged to construction account would give rise to contest and litigation at every step. Powerless to meet the difficulty directly, the Italians try to evade it; and their provisions for that purpose form the most interesting feature in the whole bill.

All the system of division is based upon gross and not net receipts. From the gross receipts deductions are to be made in every instance for a series of reserve funds; (1) \$64 per mile for extraordinary repairs; (2) \$48 per mile single track, or \$80 per mile double track, for renewal of rails; (3) 1½ per cent. for renewals of rolling stock. Actual increase of material or accommodations is to be provided for in a manner analogous to our car trusts; and the means of meeting these obligations is to be provided by a fourth fund "for property increase," derived from the gross receipts in a more complicated manner.

3. It is estimated that the annual gross receipts will be at least \$20,000,000 for one company and \$22,400,000 for the other. In that case 62½ per cent. will go to the companies for ordinary expenses and for profits, 27½ per cent. to the state for the use of its lines, while the remaining 10 per cent. will more than cover the assessments for the three first funds and the interest paid the companies on the value of their rolling stock; the balance, whatever it is, goes to the fund for property increase. Any excess of gross receipts above the minimum shall be divided as follows: Property increase fund, 15 per cent.; renewal of rails and rolling stock, ½ per cent. each; state, 28 per cent.; company, 56 per cent. But as soon as the gross return of either company shall be \$10,000,000 above the assumed minimum, the company shall receive but 50 per cent. of any further increase, while 6 per cent. shall be applied to such reductions of rates as the government may indicate. And it is further provided that if either company shall find itself in position to declare a dividend of more than 7½ per cent., half of any such excess shall go to the government.

At this distance it is almost impossible to pass judgment on proposals of this kind. The great danger in any arrangement by which the operating company obtains a determined share of the gross receipts is that the company has a great deal more interest in limiting expenditure than in developing traffic. It gets the whole benefit of any reduction in expenses and only a part of the benefit of any increase in traffic. It is therefore under constant temptation to do two things, both of which are bad for the public: 1, to prefer a small traffic at high rates to a large traffic at low rates; 2, to limit as much as possible the expenditure for renewals and permanent improvements or to shift the burden of all such improvements on the owner. The first of these dangers is not provided against by the proposed law. Perhaps it is thought that the Italian government exercises sufficient power over the tariffs to prevent any such danger. This seems like a mistake. It can prevent any increase in rates, but cannot ordinarily enforce any diminution. But in a growing and active railroad system, the charges ought naturally to diminish. With regard to the second point, the safeguards are carefully planned. The only possible questions are whether the income of the companies will keep the property increase fund at a proper level, and whether the assessments have been placed at the right figures. If any mistakes have been made here, it certainly is not for want of care or study, and we shall look with interest to see how far the event justifies the expectation of the framers of the bill. For if it should be possible to evade the most difficult questions of construction account by a closely calculated

\* A French translation of part of it has been published.



system of reserve fund, the example of Italy would probably be followed elsewhere. But in a matter which is liable to so many disturbing causes as the construction account, any very brilliant success seems too much to hope for.

ARTHUR T. HADLEY.

## General Railroad News.

### MEETINGS AND ANNOUNCEMENTS.

#### Meetings.

Meetings will be held as follows:

*Chicago & Atlantic*, annual meeting at the office in Huntington, Ind., Sept. 4.  
*Northern Pacific*, annual meeting, at the office in New York, Sept. 18.

#### Dividends.

Dividends have been declared as follows:

*Chicago & Northwestern*, 2 per cent., quarterly, on the preferred stock, payable Sept. 24. Transfer books close Sept. 4.  
*Iowa Falls & Sioux City* (leased to Illinois Central), 1½ per cent., quarterly, payable Sept. 1.

### Railroad and Technical Conventions.

Meetings and conventions of railroad associations and technical societies will be held as follows:

*Southern Railway & Steamship Association*, called meeting of the Executive Committee, in Louisville, Ky., on Monday, Sept. 1.  
*Master Car Painters' Association*, annual convention, in Boston, on Wednesday, Sept. 3. A full programme was given in our issue for Aug. 1.  
*Road-Masters' Association of America*, annual convention, in Indianapolis, Ind., on Wednesday, Sept. 10.  
*Association of American Railroad Superintendents*, semi-annual meeting, in Boston, on Tuesday, Sept. 16.  
*National Association of General Passenger & Ticket Agents*, semi-annual convention, in Boston, on Tuesday, Sept. 16.  
*New England Railroad Club*, first monthly meeting for the season, at the rooms in the Boston & Albany station in Boston, on Wednesday, Sept. 24.  
*New England Road-Masters' Association*, annual convention, at White River Junction, Vt., on Wednesday, Oct. 8.  
*General Time Convention*, fall meeting, at the Continental Hotel, Philadelphia, on Thursday, Oct. 9.  
*Southern Time Convention*, fall meeting, at No. 46 Bond street, New York, on Wednesday, Oct. 15.  
*American Street Railway Association*, annual convention, in New York, on Wednesday, Oct. 15.

#### Foreclosure Sales.

The *Annapolis & Elkridge Road* is advertised to be sold at public sale in Baltimore, Oct. 23, by Stewart Brown and Arthur George Brown, trustees, under a deed of trust. It is understood that the sale of the road, which has been announced before and withdrawn, will take place this time. A large interest in the road is owned by the state of Maryland, and previous postponements have been made on account of objections raised by the state. The road is 21 miles long, extending from Annapolis Junction on the Baltimore & Ohio to Elkridge. The funded debt is \$368,000. Arrangements were made several years ago for a consolidation with the projected Baltimore & Drum Point road, but that line was never built.

### National Association of General Passenger and Ticket Agents.

Mr. A. J. Smith, Secretary of this Association, issues the following circular:  
"The semi-annual meeting of this Association will be held at Boston, Mass., at the Hotel Brunswick, Tuesday, Sept. 16, at 11 o'clock a. m. Blank credentials will be furnished new members at the meeting."

### ELECTIONS AND APPOINTMENTS.

*American Train Dispatchers' Association*.—The officers of this new association, as chosen at the convention in Louisville last week, are as follows: President, W. N. Marshall, Louisville, Ky. Vice-President, W. W. Wheatley, Chicago & Northwestern, Chicago. Secretary and Treasurer, Isaac McEwen, New York, West Shore & Buffalo, Buffalo, N. Y. Executive Committee, J. G. Hartigan, Chicago, Milwaukee & St. Paul; Hugh Dailey, Michigan Central; W. F. Larimer, Denver & Rio Grande; J. Fitzsimmons, Texas & Pacific; H. R. Dill, Chesapeake & Ohio; S. M. Forrestall, Eastern; J. W. Ravelin, St. Louis & Cairo.

*Boston, Hoosac Tunnel & Western*.—At the annual meeting in New York, Aug. 20, the following directors were chosen: D. B. Hatch, W. H. Holliston, Augustus Kountze, Rudolph Kappler, David J. King, J. P. Kennedy, C. J. Lawrence, Robert B. Minburn, H. L. Morrill, R. M. Morse, Jr., J. O. Sheldon, Francis Smith, Charles F. Tag.

*Brunswick & Western*.—At a meeting of the board, held Aug. 26, Messrs. H. B. Plant, H. S. Haines and W. S. Chisholm were chosen directors in place of A. E. Bamberger, Henry Budge and C. P. Goodyear, resigned. The board then elected John A. Davis, of Albany, Ga., President in place of Fred. Wolfe, resigned. It is understood that these changes are made on account of the sale to the Plant Investment Co. of a controlling interest in the road.

*Chesapeake & Ohio Canal*.—At a meeting of the board, held Aug. 21, the offices of General Superintendent and Engineer were abolished, and it was resolved that the President shall hereafter act as General Superintendent. Mr. Stephen Gambrell (late General Superintendent) was chosen Clerk and Treasurer in place of Benjamin Fawcett, resigned.

*Chicago, Milwaukee & St. Paul*.—Mr. R. E. Graves has been appointed Assistant Superintendent of the Iowa & Dakota Division in place of Edward Pennington, resigned. Mr. Graves was recently Train Dispatcher on the Hastings & Dakota Division.

*Georgia Pacific*.—The following circulars from President John W. Johnston are dated Birmingham, Ala., Aug. 15:

"The following announcements are hereby made: 1. The resignation of R. H. Temple, as Chief Engineer, has been accepted. 2. General Superintendent I. Y. Sage has been charged with the duties of Engineer of this company, and will, until further orders, have the title of General Superintendent and Engineer."

Bernard Peyton, Assistant General Counsel, has been appointed, and is hereby announced as General Counsel of this company, with headquarters at Birmingham, Ala."

*Missouri Pacific*.—It is said that Mr. George J. Gould (son of President Jay Gould) has been appointed Assistant President of this company.

*New York, West Shore & Buffalo*.—The following circular from the Receivers of this road is dated New York

Aug. 21: "Mr. W. P. Robinson, having resigned the position of Traffic Manager of this railway, to take effect Aug. 31, the Traffic Department will thereafter be separated—the Freight Department to be under the control of an officer, to be known as Freight Traffic Manager; the Passenger Department under an officer to be known as General Passenger Agent. Both of these officers will report to the General Manager."

Under the same date General Manager J. D. Layng issued the following circular: "In accordance with the general order of the Receivers, of this date, Mr. Charles G. Eddy has been appointed Freight Traffic Manager of this railway, to take effect Sept. 1, 1884, with his office in the Mills Building, No. 15 Broad street, New York. Mr. Henry Monett will continue as General Passenger Agent, as heretofore."

*Peoria, Decatur & Evansville*.—The following circular from the office of Vice-President and General Manager, George L. Bradbury, is dated Peoria, Ill., Sept. 1:

"Mr. T. A. Allen is hereby appointed Chief Engineer in charge of roadway, bridges and buildings, vice Jas. W. Morris, resigned. Appointment in effect from this date."

*Port Royal & Augusta*.—Mr. S. J. Trotter has been appointed Road-Master, with office in Augusta, Ga. He has been for some time a Supervisor on the Georgia Railroad.

*Richmond & Danville Extension Co.*—The following circular from Vice-President and General Manager John W. Johnston is dated Birmingham, Ala., Aug. 15:

"The following announcements are hereby made: 1. The resignation of R. H. Temple as Chief Engineer has been accepted. 2. Until further orders I. Y. Sage will act as Engineer of this company and will have the title of Acting Engineer."

*Union Pacific*.—The following is a copy of the order issued by the President of this company in relation to a change which has been already noted: "By order of the board of directors, the existing Freight, Passenger, Coal and Stone departments of this company will hereafter form one department, to be known as the Commercial Department, under the direction of a General Traffic Manager. Mr. Thos. L. Kimball is hereby appointed General Traffic Manager. All officers of the departments designated will report to him accordingly. The General Traffic Manager will report to the General Manager of the company."

*Valley, of Ohio*.—Mr. Isaac Reynolds is now General Manager of this road, with office in Cleveland, O., having assumed the duties of that office Aug. 15. Mr. J. E. Turk continues Superintendent and Chief Engineer. The announcement given last week was incorrect.

### PERSONAL.

—Mr. James W. Morris has resigned his position as Chief Engineer of the Peoria, Decatur & Evansville road, to take effect Sept. 1.

—Mr. George Smith has resigned his position as Engineer of the Chesapeake & Ohio Canal, and the office has been abolished.

—Col. Geo. W. Easley has resigned his position as attorney for the Hannibal & St. Joseph Railway Co. He will shortly remove to Chicago.

—Mr. Edward Pennington has resigned his position as Assistant Superintendent of the Iowa & Dakota Division of the Chicago, Milwaukee & St. Paul, taking effect Aug. 28.

—Mr. Nahum F. Bryant, who died Aug. 17 at Vernon, Vt., aged 75 years, was for many years Superintendent of the Grand Junction Railroad in Boston. He retired from that position and from all active work about 10 years ago.

—Mr. Edwin M. Lewis, a well-known merchant of Philadelphia and for many years President of the Farmers & Mechanics' Bank, died at his residence in that city, Aug. 23, aged 72 years. He was one of the Receivers of the Philadelphia & Reading Railroad.

—Reports are in circulation that Mr. Thomas F. Oakes will shortly resign his position as Vice-President and General Manager of the Northern Pacific road. They are not yet confirmed by any official statement. Mr. Oakes himself denies the report that the position of General Manager of the Union Pacific had been offered him.

—Mr. Wm S. Baldwin has resigned his position as General Passenger Agent of the Buffalo, New York & Philadelphia road, to accept a similar position on the Louisville, New Albany & Chicago. Mr. Baldwin has served on the Buffalo New York & Philadelphia road since 1881, and was for three years previously General Passenger Agent of the Pittsburgh, Titusville & Buffalo. He had previously been connected with the Lake Superior & Mississippi road in several capacities.

—A recent circular from A. E. Boone, President of the Zanesville, McConnellsville & Pomeroy Co., states that Mr. Robert M. Hughes has been dismissed from his position as Assistant to the President. In relation to this, Mr. Hughes requests us to state that he was not dismissed, but resigned, for several reasons, among which are the following: 1. He has received no pay for his services from April 1 to Aug. 15, the date of his resignation. 2. He has ascertained that Hatch & Foote, of New York, were not bankers for the syndicate formed to build the road, as had been asserted, and, he also intimates, other statements made were untrue, no such syndicate having been formed as represented.

—Mr. Stephen Salisbury, one of the oldest and wealthiest citizens of Worcester, Mass., died in that city Aug. 28, aged 86 years. He had been in feeble health for some months, his failure being due chiefly to old age. Mr. Salisbury studied law in his youth but never practiced, his time being entirely occupied with the care of the large property left by his father, to which he constantly added. He held many positions of trust and was for a long time a director, and for some years President of the Worcester & Nashua Railroad Co., in which he was the largest stockholder. He was also a director of the Boston, Barre & Gardner for a time. He served several times as a member of the lower House of the Legislature and two years as State Senator. He was a liberal giver and contributed largely to the establishment of the Worcester Free Institute of Industrial Science, to which school he had given several hundred thousand dollars.

—Mr. John Leisenring died at his residence in Mauch Chunk, Pa., Aug. 22, aged 65 years. Mr. Leisenring commenced work at an early age as a civil engineer, learning his profession under the late Asa Packer. He was later employed on the Belvidere Delaware road, the Morris Canal and the canals of the Lehigh Coal & Navigation Co. He was for many years Superintendent and Engineer of the latter company, and it was under his direction that the canals were rebuilt after their partial destruction by flood, and the Lehigh & Susquehanna road and other branch railroads were constructed. Mr. Leisenring also built the iron bridge over the Delaware at Easton. For a number of

years he has been extensively engaged in the coal business, being president of several companies largely engaged in the mining and sale of anthracite. He was a director of the Lehigh Coal & Navigation Co., and also of the Central Railroad Co. of New Jersey. He leaves a considerable fortune.

### TRAFFIC AND EARNINGS.

#### Railroad Earnings.

Earnings for various periods are reported as follows:

Seven months ending July 31:				
	1884.	1883.	Inc. or Dec.	P. c.
Eastern.....	\$1,944,078	\$1,972,394	D.	\$27,716 1.4
Ft. Worth & D.....	274,059	.....	.....	.....
Gulf, Col. & S. F.....	924,472	1,003,265	D.	78,783 7.8
Louis & Nash.....	7,628,245	7,500,158	I.	128,087 1.7
Net earnings.....	2,703,610	2,992,453	D.	188,843 6.7
Memphis & Ch.....	732,238	653,406	I.	78,832 15.1
Mil. & Northern.....	293,506	297,495	I.	3,989 1.3
Nash., C. & St. L.....	1,332,656	1,297,458	I.	35,198 2.7
Net earnings.....	569,973	577,450	D.	7,476 1.3
N. Y., Sus. & W.....	548,945	554,684	D.	5,739 1.0
Northern Cent.....	3,097,771	3,419,138	D.	321,367 9.4
Net earnings.....	1,119,596	1,254,183	D.	134,584 10.7
Ohio & Miss.....	2,243,272	2,375,463	D.	132,191 5.6
Pennsylvania.....	27,332,337	28,483,532	D.	1,151,195 4.1
Net earnings.....	9,543,339	10,011,501	D.	468,162 4.7
Phila. & Reading.....	16,986,454	13,944,956	I.	3,041,498 21.8
Net earnings.....	6,723,617	6,068,807	I.	654,810 10.8
South Carolina.....	636,594	708,309	D.	71,715 10.1
Six months ending June 30:				
Ches. & Ohio.....	\$1,711,206	\$1,796,859	D.	\$85,653 4.8
Net earnings.....	444,324	535,763	D.	91,439 17.1
Month of June:				
Ches. & Ohio.....	\$257,262	\$323,845	D.	\$66,583 20.6
Net earnings.....	56,355	114,087	D.	57,732 50.6
Month of July:				
Eastern.....	\$346,285	\$334,728	I.	\$11,557 3.0
Ft. Worth & D.....	50,350	.....	.....	.....
Net earnings.....	39,439	.....	.....	.....
Gulf, Col. & S. F.....	129,814	169,555	D.	39,741 23.8
Louis & Nash.....	1,073,000	1,124,775	D.	51,775 4.6
Net earnings.....	448,130	437,760	I.	10,370 2.4
Mem. & Charles.....	102,696	86,615	I.	16,081 14.5
Mil. & Northern.....	40,083	37,505	I.	2,578 6.0
Nash., C. & St. L.....	187,475	193,468	D.	7,993 4.0
Net earnings.....	78,873	96,706	D.	17,833 18.4
N. Y., Sus. & W.....	97,017	80,189	I.	16,828 8.8
Northern Cent.....	477,516	474,534	I.	2,982 0.6
Net earnings.....	171,256	176,620	D.	5,364 3.0
Ohio & Miss.....	283,102	333,193	D.	50,091 15.0
Pennsylvania.....	3,889,055	4,130,950	D.	241,895 3.4
Net earnings.....	1,391,116	1,492,734	D.	101,618 6.8
Phila. & Reading.....	2,767,779	2,979,094	D.	211,303 7.1
Net earnings.....	1,216,779	1,439,422	D.	222,643 15.5
South Carolina.....	59,255	75,044	D.	15,789 21.0
Third week in August:				
Chl., Mil. & St. P.....	\$403,848	\$404,000	D.	\$152 ....
Chl. & Alton.....	221,969	234,347	D.	12,378 5.6
Chl. & Nor'west.....	461,400	494,900	D.	33,500 6.8
Chl. & St. P., Min. & O.....	102,000	106,400	D.	4,400 3.3
Long Island.....	102,803	95,751	I.	7,052 7.4
Louisv. & Nash.....	261,930	277,570	D.	15,640 5.6
Northern Pacific.....	214,023	219,700	D.	5,677 2.6
Roch. & Pitts.....	24,875	15,040	I.	9,835 65.5
St. L. & San Fr.....	91,200	82,900	I.	8,300 10.0
Wab., St. L. & P.....	413,477	387,477	I.	26,000 7.2

Weekly earnings are usually estimated in part, and are subject to correction by later statements.

### The First Through Freight Car from Mexico.

The Boston Advertiser of Aug. 26 says: "The first through freight car from the city of Mexico arrived in Boston, at the New York & New England Railroad station, early yesterday morning. It came over the Mexican Central Railway from Mexico to El Paso, Texas, the Atchafalaya, Topeka & Santa Fe to Kansas City, the Hannibal & St. Jo. and the Chicago, Burlington & Quincy to Chicago and the Star Union Line to Boston. The car contains a large part of the curiosities and products from the various sections of the republic. The car left the city of Mexico July 20, and was side-tracked at the principal stations along the line, to receive its varied cargo, arriving at Paso del Norte Aug. 1, from which point it came through to Boston in bond. It will be drawn over the Marginal line directly to the fair building to-day."

### A New Chicago-Montreal Line.

The Michigan Central and the Canadian Pacific are now running a through passenger line between Chicago and Montreal via St. Thomas, Ont., Toronto and Ottawa. The line includes the Michigan Central from Chicago to St. Thomas, the Ontario Division of the Canadian Pacific from Smith's Falls and the Eastern Division of the Canadian Pacific from Smith's Falls to Montreal. Two through trains daily are run between Chicago and Montreal by this route, carrying through sleepers between Chicago and Toronto and Toronto and Montreal.

### Grain Movement.

For the week ending Aug. 16, receipts and shipments of grain of all kinds at the eight reporting Northwestern markets and shipments at the seven Atlantic ports have been, in bushels, for the past nine years:

Year.	Northwestern receipts.		Northwestern shipments.		Atlantic receipts.
	Total.	By rail.	Total.	By rail.	
1876.....	4,380,032	3,872,063	1,320,811	39 3	3,227,690
1877.....	5,331,315	4,032,860	1,036,221	22.6	4,493,252
1878.....	9,015,189	5,725,812	1,303,453	22.8	6,823,013
1879.....	6,550,190	6,238,710	1,818,087	29.1	7,439,649
1880.....	7,747,247	6,789,435	2,031,203	29.9	7,066,271
1881.....	7,502,463	5,409,136	2,459,061	45.5	5,324,453
1882.....	4,989,471	4,596,555	1,891,578	41.1	5,539,063
1883.....	7,044,128	6,288,955	1,813,536	28.8	4,194,477
1884.....	8,445,860	5,671,139	1,893,130	33.4	3,433,585

Thus the receipts of the Northwestern markets for the week this year were larger than in the corresponding week of any previous year except 1878, and were 2,400,000 bushels more than last year. They were also 3,121,000 bushels (59 per cent.) more than in the previous week of this year and the largest since September of last year. They have been exceeded only in four weeks of last year, in one week of 1881, in seven of 1880 and in three weeks of 1878. Of the whole increase of 3,121,000 bushels over the previous week no less than 2,199,000 was at Chicago, only one-third of which was wheat, the larger part being corn. While Chicago gained 90 per cent., Toledo gained 22 per cent., St. Louis 22 per cent. and Peoria 99 per cent. The Peoria receipts were chiefly oats and there was generally a great gain in these, in the total an increase of 1,030,000 bushels (108 per cent.) over the previous week.

The shipments of these markets were 628,000 bushels less than in the corresponding week of last year, were larger than in 1883 and 1881, but smaller than for three years before 1881. They were, however, 1,560,000 bushels (38 per cent.) more than in the previous week of this year, and with one exception were the largest of the year. The rail shipments were nearly the same as in the two years previous, and were the largest since the 15-cent rate. The shipments down the Mississippi were but 44,696 bushels.

The receipts of the Atlantic ports were less than in any corresponding week since 1876, and were 763,000 bushels



(18 per cent.) less than last year. They were also a little less than in the previous week of this year, and were the smallest for four weeks. Compared with the previous week there is a large increase at New Orleans, where the receipts were the largest of the year, with the exception of a week in February, but there is a large decrease at New York and Baltimore. Three-fourths of the seaboard receipts for the week were wheat this year, and two-fifths of it went to New York.

Exports from Atlantic ports for this week to Aug. 16 have been, for five years:

	1880.	1881.	1882.	1883.	1884.
Flour, bbls.....	128,700	155,081	154,991	132,010	161,927
Grain, bu.....	6,016,928	4,303,022	4,054,437	3,009,766	2,485,429

Total, bu.....7,496,078 5,000,886 4,751,896 3,603,811 3,214,100

Thus the exports this year were less than any other of the five years; 10½ per cent. less than last year, 32½ per cent. less than in 1882, 35½ per cent. less than in 1881, and 57 per cent. less than in 1880.

#### Coal.

Coal tonnages for the week ending Aug. 16 are reported as follows:

	1884.	1883.	Inc. or Dec.	P. c.
Anthracite.....	720,792	678,087	I. 111,805	18.4
Eastern bituminous.....	181,284	190,065	D. 8,781	4.6
Coke.....	65,766	58,548	I. 7,218	12.3

The anthracite coal companies will stop production for the first week in September, as already noted, but whether a further stoppage will be necessary during the month has not yet been decided.

Bituminous shipments continue large, and the totals for the year in most of the districts reporting show gains over last year.

The coal tonnage of the Pennsylvania Railroad for the week ending Aug. 16 was:

	Coal.	Coke.	Total.
Line of road.....	132,199	60,943	193,142
From other lines.....	71,479	4,823	76,302

Total.....203,678 65,766 269,444

The total tonnage this year to Aug. 16 was 8,177,730 tons, against 7,451,367 tons to the corresponding date last year; an increase of 726,363 tons, or 9.7 per cent.

Cumberland coal shipments for the week ending Aug. 23 were 69,505 tons. The total shipments this year to Aug. 23 were 1,773,436 tons, against 1,550,651 tons to the corresponding date last year, showing an increase of 222,785 tons, or 14.4 per cent.

In Chattanooga, Tenn., Aug. 21, the Southern Coal Association was organized, with A. B. Johnston, of Birmingham, Ala., as President; J. T. Williams, of Chattanooga, E. E. McCroskey, of Knoxville, and A. M. Shook, of Tracy City, Tenn., Vice-Presidents. The principal office will be in Chattanooga. The object of the association is to form a compact body for the protection of the property represented, and to secure a fair revenue for the capital invested therein, and for the promotion generally of the mining and transportation interests, so largely dependent upon each other. After agreeing upon a scale of prices, which is not made known, the association adjourned. The greater part of the coal operators of Tennessee, Georgia, Alabama and Kentucky are members.

The coal tonnage of the Chesapeake & Ohio Railroad for the seven months ending July 31 was:

	1884.	1883.	Decrease.	P. c.
Coal.....	493,454	544,634	50,980	9.4
Coke.....	34,449	61,960	29,511	46.1

Total.....528,103 606,594 80,491 13.2

The decrease was in canal, block and gas coals, the shipments of New River and other steam coals showing an increase.

#### Cotton.

Cotton movement for the week ending Aug. 22 is reported as follows, in bales:

	1884.	1883.	Inc. or Dec.	P. c.
Receipts.....	2,461	10,640	D. 8,179	76.8
Shipments.....	4,278	12,130	D. 7,902	65.1
Stock, Aug. 22.....	16,590	50,536	D. 33,927	67.2

The total shipments from plantations for the cotton year from Sept. 1 to Aug. 22 are estimated at 5,650,396 bales; the decrease, as compared with last year, is 1,328,283 bales, the increase as compared with 1881-82 is 295,862 bales, and the decrease from 1880-81 is 904,963 bales.

#### Montana Live Stock Rates.

Commissioner E. P. Vining, of the Western Trunk Line Association, announces the following new rates:

	From Chicago.	From St. Louis.	From Detroit or Toledo.
To Montana points.			
Sheep in single deck cars released.....	\$200.00	\$185.00	\$215.00
Sheep in coops or crates, tiered, released.....	210.00	187.50	232.50
From Montana points.			
Native horses released.....	\$230.00	\$212.50	\$250.00

The following special rates on live stock will be in effect until further notice between the points named: Cattle, carload, released, loaded and unloaded by owners or their agents and attended to, fed and watered by them to and from Chicago and common points to Elm Creek, Josselyn, Odessa, Overton, Plum Creek, Stephenson, Neb., \$95; cattle, carload, released, loaded and unloaded by owners or their agents and attended to, fed and watered by them to or from St. Louis, East St. Louis and common points to Elm Creek, Josselyn, Odessa, Overton, Plum Creek, Stephenson, Neb., \$77.50.

The new west-bound rates from Montana show a reduction in each case of \$90. The east-bound rates from Montana are wholly new. The new Nebraska rates show a reduction of \$5 per car-load in each case.

#### Passenger Rates.

For over a week past it is stated that the cutting of west-bound rates has been actively in progress in New York. It has not been done directly at the companies' offices, but in a quiet way by the allowance of commissions to outside agents, and in consequence the brokers' offices have monopolized the business of selling through tickets. It is reported that as much as \$5.25 commission has been paid on tickets to St. Louis via the New York Central, \$2.50 to Cincinnati and \$3 to Chicago. The regular rates to western points, it is charged, especially to Chicago by the Erie and the Baltimore & Ohio, have been cut at the brokers' offices in the same proportion. Persons interested charge this action upon the West Shore road, which they say has been cutting rates ever since it was opened as a through line. No open cutting has been done by the lines in the pool, but it is said that a general reduction of rates may be expected at any time.

A pretty lively competition is in progress between the West Shore and the New York Central in the form of special excursions at very low rates from different cities on

the lines of the two roads to Niagara Falls and Saratoga. Until this week there have been no excursions of this kind from New York, but both the West Shore and the Central have announced excursions from New York to Niagara Falls to start Aug. 30 at \$3 for the round trip, tickets being limited to four days. Further cutting in this way is expected.

#### Transcontinental Association.

A meeting is to be held at Saratoga, Sept. 2, for the purpose of considering existing troubles, especially in relation to west-bound freight.

#### OLD AND NEW ROADS.

**Atlantic & Pacific.**—A semi-official statement of the recent agreement with the Central Pacific (noted last week) is published in Boston, as follows: "Negotiations have been pending for several months between the Atlantic & Pacific Railroad Co. and the Southern and Central Pacific Companies of California, with a view to forming a close-working train service and traffic arrangement, extending from St. Louis over the St. Louis & San Francisco Railway, and from Atchison and Kansas City over the Atchison, Topeka & Santa Fe Railroad, by way of the Atlantic & Pacific route from Albuquerque, New Mexico, to San Francisco and all points in California. These negotiations, now satisfactorily concluded, have resulted in agreements between the Atlantic & Pacific Co., the Southern Pacific Co. and the Central Pacific Co., by which the Atlantic & Pacific Co. has purchased 242 miles of the Southern Pacific Co.'s railway, extending from the present western terminus of the Atlantic & Pacific Railroad at the Colorado River near the Needles to Mojave, a junction station on the Southern Pacific Railway, 382 miles from the city of San Francisco. In connection with the purchase of this division of the Southern Pacific Co.'s railroad in California a traffic agreement has been simultaneously entered into under which the Atlantic and Pacific Co. runs its cars and transacts its regular business with San Francisco and other points in California over the existing lines of the Southern Pacific and Central Pacific railroads. This agreement permits the Atlantic and Pacific Co. to run its trains directly to San Francisco at any time after notice, and until this is done a fair and equitable division of the rates upon traffic passing over the line will apply to all business of the Atlantic & Pacific Co. It has been stated that the Atchison, Topeka & Santa Fe and the St. Louis & San Francisco railroad companies have entered into new obligations in respect to these contracts. Upon inquiry it is found that the only new direct obligation of either of those companies concerning any of the contracts pertaining to this great through line are such as may grow out of any deficiency in the net earnings of the 242 miles of railway purchased by the Atlantic & Pacific Co. from the Southern Pacific Railroad Co. The whole of the interest upon the purchase price is but \$436,000 per annum and the liability of the Atchison and the San Francisco companies is respectively limited to one-half each of such portion of this sum as may not be earned upon the railway purchased. The Atlantic & Pacific Co. takes charge of the line bought and will open and put in operation a fast freight line in connection with these contracts is regarded as of great benefit to the Atlantic & Pacific and also to the Atchison and the San Francisco companies, as it gives the latter companies immediate connection for all California traffic, both passenger and freight, second to none, and upon terms not heretofore enjoyed by any lines east of California."

**Baltimore & Ohio.**—The Baltimore Day of Aug. 20 says of the progress of work on the new extension to Philadelphia: "The abutments and stone supports for the Baltimore & Ohio Railroad bridge have been completed on either side of the Susquehanna River, and the work is being rapidly pushed. The last season will be launched in the course of a few days. One of the stone piers is being constructed in the river on the Hartford side, and it is already a considerable height above the water. The grading has been completed toward Baltimore up to the point where the new road crosses the line of the Philadelphia, Wilmington & Baltimore east of the Bayview Asylum above grade, and the stone arch spanning the railroad is in course of construction. Major Douglass, Chief Engineer of the new road, reports that about 75 per cent. of the entire work of grading is completed, and that the entire work will be finished in about three months, when the work of laying the rails will be pushed with vigor in order to complete the road by next spring, by which time work on the elevated road through the city will have been begun."

The following important circular has been issued by Mr. Robert Garrett, President *pro tem.*:

"With a view of promoting settlements and the establishment of manufacturing and other industries along its lines, the following inducements are offered corporations, land and building associations and individuals to locate on or adjacent to the roads owned or operated by the Baltimore & Ohio Railroad Co., to take effect Sept. 1, 1884:

"1. The transportation, over this company's lines, of household effects and building materials for dwellings, or structures intended exclusively for manufacturing purposes (and situated on the line of the Baltimore & Ohio Railroad or its branches), at one-half current freight rates, according to classification.

"2. The transportation of workmen employed in making such improvements at one-half the regular rates, during the time engaged in making such improvements.

"3. Free transportation over its lines for the families and domestics of the first occupants of dwelling-houses constructed under these concessions, journeying to take possession of them, and thereafter favorable commutation rates.

"4. Free care and transportation on passenger trains of marketing and other household supplies, not bulky in character.

"5. These concessions apply only to suburban and other country settlements of less than 10,000 inhabitants.

"6. The establishment of stations, switches, telegraph and express offices, as soon as warranted, at points from which present facilities cannot be utilized.

"7. Increased train facilities as rapidly as the growth of population will justify.

"Other special inducements may be given manufacturing corporations, land and building associations and individuals contemplating the expenditure of considerable sums in construction, to which end correspondence should be addressed to the Second Vice-President of the Baltimore & Ohio Railroad Co.

"Applications should be made on a printed blank, which will be supplied by this company to any individual or association which may be organized under the circular. This company reserves the right to reject any application for the foregoing privileges.

"Application for these privileges on the Main Stem, Parkersburg, Washington, Alexandria, Metropolitan, Washington County and the Harper's Ferry and Valley branches, and the Valley Railroad, should be addressed to Mr. S. Spencer, Second Vice-President Baltimore & Ohio Railroad,

Baltimore; to the Wheeling & Pittsburgh Division, Pittsburgh & Connellsville Railroad (Pittsburgh Division), Salisbury, Berlin, Somerset & Cambria, Mt. Pleasant and Fayette County branches, to Mr. Thos. M. King, General Superintendent, Pittsburgh; to the Central Ohio, Lake Erie, Straitsville and Chicago divisions and branches to Mr. G. J. Foreacre, General Manager, Newark, Ohio."

**Brunswick & Western.**—It is announced that a controlling interest in this road has been sold to the Plant Investment Co., which controls the Savannah, Florida & Western, the South Florida and other roads. The road, which was originally the Brunswick & Albany, extends from Brunswick, Ga., westward to Albany, 171 miles. Its owners for some years past have been the original bondholders, and they have been, ever since they took possession of the road, willing to sell it out. A sale to the so-called Erlanger syndicate was arranged, but not completed. It has never been a profitable property, but can doubtless be worked to better advantage in connection with the Savannah, Florida & Western than by any other company.

**Burlington, Cedar Rapids & Northern.**—On the extension of the Pacific Division from Lake Park, Ia., to Watertown, Dak., a distance of 160 miles, more than half the grading is now completed. Tracklaying is already in progress from Lake Park northwest and has also been recently begun at Pipestone, Minn. The company hopes to have the entire extension completed by October next.

Work on the extension of the Clinton branch from its present terminus at Noel, Ia., westward to Elmira, 46 miles, is progressing well and track-laying has been begun. Thus extensions will give the road another connection with Chicago by way of Clinton, which is more direct than the present Chicago connection from Burlington for all through traffic coming from the Pacific Division and other northern parts of the line.

A new branch extending from the Pacific Division at Dows, Ia., to Wright Co., Ia., northward to Garner, in Hancock Co., 33 miles, has just been completed. It is proposed to extend this branch beyond Garner, but it has not yet been decided whether any work will be done this season. On the new extension of the Milwaukee Division from Postville, Ia., northwest to Decorah, 21 miles, the grading is finished and tracklaying will soon be begun. These three branches, with the extension to Watertown, will make some 260 miles of new road which the company expects to build this season.

**Camden & Atlantic.**—This company has completed the grading of an extension of its South Atlantic branch from South Atlantic City, N. J., to Long Point, about two miles. The ties and rails have been delivered, and tracklaying begun, and it is expected that the branch will be finished during the present week.

**Canadian Pacific.**—The mileage of completed road owned and controlled by this company at the close of July was as follows:

	Miles.
Eastern Division, Montreal to Bannerman.....	484.7
Western Division, Nepigon to Stephen (summit of the Rocky Mountains).....	1,459.1
Western Division, Stephen to Savonas Ferry.....	292.0
Total main line completed.....	2,235.8

<b>Eastern Division—Branches—</b>	
Aylmer Branch—Hull to Aylmer.....	7.5
St. Jerome Branch—St. Theres to St. Jerome.....	14.6
St. Lin Branch—St. Lin Junction to St. Lin.....	13.0
St. Eustache Branch—St. Theres to St. Eustache.....	8.0
Brookville Branch—Carton Junction to Brookville.....	45.5
Algoma Branch—Sudbury to Algoma Mills.....	96.0
Total.....	183.6

<b>Ontario Division—</b>	
Smith's Falls to Toronto Junction.....	211.0
Toronto to St. Thomas.....	121.0
Toronto to Owen Sound.....	122.0
Total.....	454.0

<b>Ontario Division—Branches—</b>	
Orangeville Branch—Streetsville to Orangeville.....	35.0
Elora Branch—Church's Falls to Elora.....	27.5
Teeswater Branch—Orangeville to Teeswater.....	70.0
Total.....	132.5

<b>Western Division—Branches—</b>	
Emerson Branch—Emerson to Winnipeg.....	66.5
West Selkirk—Winnipeg to West Selkirk.....	22.0
Stonewall—Air Line Junction to Stonewall.....	18.3
Pembina—Winnipeg to Manitoba.....	11.2
Southwestern Col.—Winnipeg to Maryland.....	51.0
Gretna—Rosenfeld to Gretna.....	13.9
Emerson & West Lynn—Emerson to West Lynn.....	20.3
Total.....	294.4

Total.....3,300.3

The mileage under construction includes the main line from Savonas Ferry (Kamloops Lake) west to Port Moody in British Columbia, 214 miles; and the main line from Bannerman along the north side of Lake Superior to Nepigon, 442.5 miles.

President Stephen officially denies reports that the company has drawn anything from the Canadian government in excess of the amount authorized by the loan act, or that it has made any further call on the government for aid.

**Central Massachusetts.**—The committee of bondholders report that a careful examination of the road has been made, and that with very few exceptions all the work already done is in very good condition. It is estimated that only \$1,500,000 will be required to complete and equip the road to Northampton, and to pay the interest on the bonds until the road shall be capable of taking care of the same from its earnings. It is proposed to issue bonds to this amount secured by a first mortgage, and bearing 6 per cent. interest, and having 20 years to run, the company reserving the right to redeem the same at any time at 5 per cent. premium. The agreement under which the old bonds were exchanged for preferred stock in the new company provides that the holders of preferred stock shall have the right to subscribe for the whole or any portion of the new bonds to be issued for the completion of the road. The committee believe that these bonds will be a safe investment, and also think that a substantial subscription for the same made by the preferred stockholders will go far toward assuring their speedy negotiation at a satisfactory price. They, therefore, request that each preferred stockholder shall send them, before Sept. 1, a memorandum of the amount of bonds which he is willing to subscribe for.

**Chesapeake & Ohio.**—This company's statement for June and the six months ending June 30 is as follows:

	June.	Six months.
	1884.	1883.
Earnings.....	\$257,262	\$323,845
Expenses.....	200,907	209,758
Net earnings.....	\$56,355	\$114,087
Per cent. of exps.....	78.1	64.7

For the six months there was a decrease in gross earnings of \$66,583, or 4.8 per cent.; an increase in expenses of \$5,786, or 0.5 per cent., and a resulting decrease of \$91,439, or 17.1 per cent., in net earnings. The net earnings were less than half the interest requirements for the year, but the second half of the year usually makes a better showing than the first.



**Chicago & Northwestern.**—A contract for grading the extension of the Fremont, Elkhorn & Missouri Valley road, recently acquired by this company, from Valentine, Neb., west to Antelope Creek, 90 miles, has been awarded to O'Heron Bros., of Cedar Rapids, Ia., who are to finish at least 30 miles west of Valentine this fall, and the remainder early next season. The line runs nearly due west, being generally but a few miles south of the Dakota line.

The following statement has been published, showing the mileage of road owned, operated and controlled by this company on Aug. 1.

CHICAGO & NORTHWESTERN (PROPER).		Miles.
Wisconsin Division.....		597.10
Galena Division.....		349.16
Iowa Division.....		721.23
Missouri Division.....		470.80
Peninsula Division.....		425.30
Winona & St. Peter Division.....		405.20
Dakota Central Division.....		583.90
Northern Iowa Division.....		369.35
Total.....		3,923.04

CHICAGO, ST. PAUL, MINNEAPOLIS & OMAHA.		Miles.
Eastern & Northern Division.....		584.00
St. Paul & Sioux City Division.....		498.50
Nebraska Division.....		222.40
Total.....		1,304.90

SIOUX CITY & PACIFIC.		Miles.
Missouri Valley Junction to Sioux City, Ia.....		75.70
Missouri Valley Junction to Valentine, Neb.....		306.00
Norfolk Junction, Neb., to Creighton, Neb.....		42.10
Total.....		417.80

This shows a total of 5,646 miles of road, of which 3,923 are operated under the organization of the Chicago & Northwestern, 1,305 miles by the Chicago, St. Paul, Minneapolis & Omaha, and 418 miles by the Sioux City & Pacific, although the whole mileage is directly owned or controlled by the Chicago & Northwestern.

**Cincinnati & Eastern.**—The track on this road is now completed to Portsmouth, O., six miles beyond the late terminus at Rushtown, and 106 miles from Cincinnati, making the shortest route in existence between the two cities. The newer portion of the road has been built with a view to its immediate change from 3 ft. to standard gauge, and will be changed as soon as the necessary equipment is delivered, which is expected to be next month. Preparations will then be begun for a change of gauge from Winchester east to Cincinnati, about 56 miles, which will require considerable work, as that portion of the road was built before a change to standard gauge was agreed upon. Regular passenger trains between Cincinnati and Portsmouth will begin to run next week.

**Cincinnati, Hamilton & Dayton.**—Notice is given that the Dayton & Michigan second-mortgage bonds maturing Sept. 1 will be paid at the office of Messrs. Kuhn, Loeb & Co., in New York, on and after that date. Holders of the maturing bonds have the privilege of converting the same into Dayton & Michigan consolidated 5 per cent. bonds, due 1911, if presented before Sept. 15. The amount of the second-mortgage bonds outstanding was \$426,000 by the last report.

**Cincinnati, Wabash & Michigan.**—Arrangements are being made for the extension of this road from its present southern terminus at Anderson, Ind., to Indianapolis, and surveys will shortly be begun. It is said to be still uncertain whether the line will be built from Anderson directly southwest to Indianapolis, a distance of 35 miles, or whether the company will run a line due south to an intersection with the Indiana, Bloomington & Western. The distance to a junction with that road will be about 20 miles, and this line would save the heavy expense of an entrance into Indianapolis.

**Columbus Southern.**—This company has received its articles of incorporation in Georgia. The object is to build a railroad from Columbus, Ga., southwest to Albany, about 80 miles. The capital stock is fixed at \$1,000,000. The incorporators are all residents of Columbus or other points on the proposed line.

**Eastern.**—The gross earnings of this road for July and the ten months of its fiscal year from Oct. 1 to July 31 were as follows:

	1884.	1883.	Inc. or Dec.	P. c.
July.....	\$346,285	\$334,728	\$11,557	3.5
Ten months.....	2,816,363	2,816,111	2,252	0.1

The Boston *Advertiser* says: "Some idea of the summer travel on the Eastern may be gained by its earnings, but more from the fact that from June 1 to Aug. 17 there were checked at the Boston station 48,711 pieces of baggage, and from points west of the city 3,080 pieces."

**Esquimaux & Nanaimo.**—A contract has been closed with the colonial authorities of British Columbia for the construction of this road, which is to extend from Esquimaux Harbor (Victoria) on Vancouver's Island northward to Nanaimo Harbor. The contractors, who will organize the railroad company and will own the road when completed, are: Robert Dunsmuir, James Dunsmuir, and John Bryden, of Nanaimo; Charles Crocker, Charles F. Crocker and Leland Stanford, of San Francisco, and C. P. Huntington, of New York. The railroad is to be of standard gauge and of approved construction, with steel rails and substantial road-bed. In addition to owning the road when completed, the company will receive a subsidy of \$750,000, and also a land grant of about 1,500,000 acres. The grant is absolute; that is, there is no reservation of mineral rights and the company will own whatever coal and other ores may be found upon its lands. It is also provided that all the property of the company shall be exempt from taxation for ten years from the completion of the road. The length of the road will be about 70 miles and it is understood that its construction will involve some difficult and expensive work. On the other hand it is stated that on the line of the road are very valuable coal deposits, while nearly its whole length is through timber of long growth and excellent quality. When completed the road will be practically a connecting line from Esquimaux Harbor (Victoria) to the Canadian Pacific, whose terminus at New Westminster on the mainland is directly opposite Nanaimo. The road is to be completed by June 10, 1887.

**Evansville & Terre Haute.**—This company makes the following statement for the nine months of its fiscal year from Sept. 1 to May 31:

	1883-84.	1882-83.	Inc. or Dec.	P. c.
Earnings.....	\$537,724	\$547,084	\$11,357	1.7
Expenses.....	267,515	291,763	D. 24,248	8.3
Net earnings.....	\$270,209	\$255,321	I. \$14,888	5.8
Per cent. of expenses.....	49.7	53.3	D. 3.6	

The reduction in expenses exceeded the small decrease in gross earnings. The mileage worked was the same in both years.

**Grand Trunk.**—This company's engineers have been for some time drilling along the banks and bed of the St. Clair River at Port Huron, the object being to ascertain whether it would be practicable to build a tunnel under the river at that point. It is said that they found a clay bottom extending nearly 100 ft. down before the rock was reached. The results have not been made public and probably will not be.

**Illinois Central.**—A somewhat sensational report came from Chicago last week to the effect that the Baltimore & Ohio Co. had offered to pay \$26,000,000 for a controlling interest in this road, and that the offer had been accepted. The report was not generally believed, and has since been absolutely denied by officers of both companies, who say that there was no foundation whatever for it and that there had not only been no negotiations, but that the idea had not been entertained by either company.

**Kansas City, Fort Scott & Gulf.**—It is reported that this company has begun a survey for a short cut to Springfield, Mo. The proposed line, it is said, will leave the present main line at Ochiltree, Kan., and run southwest in as near an air line as possible to Springfield. This will not only give the company a much shorter line than the one at present in use, but will pass through considerable territory now without railroad facilities. It is doubtful, however, whether anything will be done this season beyond surveys of the line.

This company has decided to locate its principal car shops at Springfield, Mo., and work will be begun on the necessary buildings at once.

**Lake Shore & Michigan Southern.**—This company's statement to the New York Railroad Commission for the quarter ending June 30 is as follows:

Gross earnings.....	\$3,538,378
Expenses (57.4 per cent.).....	2,030,211
Net earnings.....	\$1,508,167
Interest, rentals and taxes.....	1,037,265
Surplus.....	\$470,902

The surplus for the quarter was equal to 0.95 per cent. on the stock. The dividend paid for the quarter was 1½ per cent.

**Long Island.**—This company's statement to the New York Railroad Commission is as follows:

Gross earnings.....	\$695,173
Expenses (58.1 per cent.).....	405,962
Net earnings.....	\$289,183
Income from other sources.....	70,798
Total.....	\$361,981
Interest, rentals and taxes.....	189,099
Surplus.....	\$172,882

From this surplus a dividend of 1 per cent. was paid during the quarter, requiring for its payment \$100,000 and leaving a balance of \$72,882 on hand.

**Louisville & Nashville.**—This company's statement for July, the first month of its fiscal year, is as follows:

	1884.	1883.	Inc. or Dec.	P. c.
Earnings.....	\$1,073,000	\$1,124,775	D. \$51,775	4.6
Expenses.....	624,870	687,015	D. 62,145	9.0
Net earnings.....	\$448,130	\$437,760	I. \$10,370	2.4
Per cent. of exps.....	58.2	61.1	D. 2.9	

A meeting of the board was held in New York, Aug. 26, when a plan for the financial relief of the company was finally agreed upon. It is understood that about \$4,000,000 will be needed, about one-half of the amount being required to pay the floating indebtedness, now due. The board decided not to make the details of the scheme public for some weeks yet, when it will be published simultaneously in New York, London and Amsterdam.

**Louisville, New Orleans & Texas.**—The track on the southern end of this road has now been laid for 25 miles northward from the late terminus at Porter Bayou, Miss., the northern end being now about 120 miles north of Vicksburg. The completion of this 25 miles of track required the construction of nearly 15,000 lineal feet of trestle work. The main obstacle now remaining to the completion of the road is the bridge over the Hushpuckana River, where some difficult and expensive work is required for the foundation. There remain only 15 miles of track to be laid to complete the entire line of 455 miles from New Orleans to Memphis. The date of the opening of the road through will depend somewhat upon the delays which may be met with at the bridge.

A dispatch from Vicksburg, Miss., Aug. 27, says: "In September last E. Martin and other stockholders of the Mississippi Valley & Ship Island Railroad filed a suit against W. M. Johnson and E. T. Wilson, of New York, praying that they be compelled to comply with the original contract, made at the time the defendants purchased the franchise of said roads from the plaintiffs. This suit has just been compromised, the Mississippi Valley Railroad Co., Wilson and others agreeing to issue to the plaintiffs \$2,000,000 of second mortgage bonds and stock, as soon as the road is completed, on or about Sept. 5, divided as follows: E. Martin, \$500,000; estate of L. A. Campbell, \$300,000; Gen. N. H. Harris, \$150,000; Hobart & Smith, New York, \$500,000; W. F. Hunt, Boston, \$150,000; estate of George M. Klein, \$150,000; A. B. Pittman, attorney's fees, \$250,000."

**Mount Desert.**—A somewhat unusual sight was presented at Bar Harbor, Me., recently, by the attendance of a number of distinguished railroad men, including ex-President Gowen of the Philadelphia & Reading Railroad, Gen. R. B. Potter and others at a meeting to protest against the construction of a railroad. The line which they oppose is to run on the island of Mount Desert from Bar Harbor to Eagle Lake, and resolutions were adopted to the effect that the construction of the road would seriously damage the island as a place of summer resort, besides the danger incident to property from fire. None of the railroad men present seemed to have a single good word to say for the proposed road, although they would probably be very indignant at the holding of such a meeting on any of their own lines.

**Nashville, Chattanooga & St. Louis.**—This company's statement for July, the first month of the fiscal year, is as follows:

	1884.	1883.	Inc. or Dec.	P. c.
Earnings.....	\$187,475	\$195,468	D. \$7,993	4.1
Expenses.....	108,002	98,762	I. 9,240	9.9
Net earnings.....	\$78,873	\$96,706	D. \$17,833	18.4
Interest and taxes.....	57,360	55,073	I. 2,287	3.9
Surplus.....	\$21,613	\$41,633	D. \$20,020	4.8

The comparison is with an unusually good month last year. This year the cotton movement has been lighter and other causes have also assisted in diminishing the traffic, and in reducing rates.

**New York Central & Hudson River.**—This company's statements to the Railroad Commission give the fol-

lowing figures for the quarter ending June 30, and the nine months of the fiscal year from Oct. 1 to June 30:

	Quarter.	Nine months.
Earnings.....	\$4,361,071	\$9,085,730
Expenses.....	4,232,258	13,132,950
Net earnings.....	\$2,128,813	\$7,532,840
Interest, rentals, taxes, etc.....		4,185,000
Surplus, or profit.....		\$3,667,840

The surplus was equivalent to 4.1 per cent. on the stock, while the dividends actually paid amounted to 6 per cent. It is said that the statement does not include the miscellaneous earnings.

**New York, Lake Erie & Western.**—An official statement of the proceedings attending the election of Mr. King as Assistant President is given below:

On July 14, 1884, Mr. Jewett addressed a communication to the Board of Directors, as follows:

"New York, July 14, 1884.  
"To the Board of Directors of the New York, Lake Erie & Western Railroad Co.:

"GENTLEMEN: Ten years ago this day I was elected President of the Erie Railway Co., with the understanding (which was immediately thereafter put in the form of a contract) that I was to serve for the term of 10 years.

"Upon the dissolution of that company and the organization of this company, that contract, perhaps, became inoperative; but I felt it to be my duty to serve the company for the full time if such service was desired, regardless of any contract obligations; and I so advised the members of this board. I, however, never contemplated a longer official connection with the company.

"For 10 years I have devoted my entire time, with all the skill and ability I am possessed of, to the care and management of the interest of these companies, to the absolute and entire neglect of my private business and personal interests, looking forward to the end of the 10 years when I could return to them and, to some extent, reinstate them to the condition in which I left them. For some time past I have with great care and anxiety been reviewing the details of the improvements, extensions, and management of the properties, interests, and business of the companies since my connection with them, expecting to realize that I had made many mistakes, and fearing that I might find some of a serious and, perhaps, damaging character. That I have made mistakes there can be no doubt, but I am gratified to find and to be able to say that upon such careful review of the whole period I can find no transaction of importance that, with the same lights only which were then before me, I would not repeat. With the same lights and the additional experience I now have in many instances I would perhaps have advised a different line of action and of policy. If, therefore, there was nothing else involved, and the business of the country was in a happy and prosperous condition (which is all that is necessary to a healthy and prosperous condition of this company), after tendering to you my most sincere thanks for, and unqualified appreciation of, your uniform kindness and co-operation with me in the discharge of my official duties, I should tender to you my resignation as the President of this company. But in view of the disordered and disorganized state of affairs and of business generally, as well as of the business and interests of this company, I cannot see my way clear to tender such unqualified resignation. I can do nothing more at present, therefore, than to place before you the facts and remain subject to your will and pleasure, with the distinct understanding, however, that I cannot consent to a re-election so as to have devolved on me in the future, as in the past, all the duties of supervising and directing the detailed management of the various departments and interests of the company. With the greatest consideration and respect, I remain, yours very truly,

"H. J. JEWETT."  
Thereupon the board of directors appointed a committee, consisting of Messrs. Thomas Dickson, J. Lowber Welsh, Jacob H. Schiff, and R. Suydam Grant, to whom was referred the letter of Mr. Jewett, with instructions to see what satisfactory arrangement could be made which would still retain his services to the company, but would at the same time relieve him of the many cares and burdens of which he complained (and which the board fully recognized as excessive). During the consideration of this subject by the committee the names of several parties were suggested to them as being gentlemen whose services it was thought might be valuable in securing this result, and among them was that of Mr. John King, late Vice-President of the Baltimore & Ohio Railroad Co., with whom Mr. Jewett had been long and personally acquainted.

The committee ascertained that the assistance of Mr. King would be personally agreeable to Mr. Jewett, but it did not see its way clear to take any action looking to his appointment as Assistant President for the time being until they were assured that some satisfactory arrangement would be made, in connection with such appointment, to relieve the company of its financial necessities. Whereupon the committee was presented with a letter from Mr. King, indorsed by Messrs. Powell and Westlake (the representatives then in this city of the foreign interests in the company), which letter, with the indorsement, is as follows:

"New York, Aug. 18, 1884.  
"Hon. H. J. Jewett, President New York, Lake Erie & Western Railroad Co.:

"DEAR SIR: I am satisfied from representations made to me by Messrs. Powell & Westlake, representatives of the European interests in your company, that if I am elected Assistant President of your company for the time being, with the understanding that I am to be elected President at the annual meeting in November next, the funds needed to retire the floating debt of the company and to place the company upon a safe financial basis will be furnished, and it is upon this assurance that I consent to accept the positions referred to.

"I am, very respectfully, yours, etc., JOHN KING."  
"We have given Mr. King such assurance as above mentioned.

T. W. POWELL.  
J. WESTLAKE.  
The committee having no reason to doubt the ability of Messrs. Powell and Westlake to make good their assurances as expressed in such indorsement, in consideration of such letter and of the fact that the appointment of Mr. King was satisfactory to Mr. Jewett, reported to the board of directors on the 21st inst. resolutions which were adopted and which are as follows:

"Resolved, That this Board most unwillingly accepts Mr. Jewett's proposal to leave the Presidency of this company at an early date, and in view of the following letter from John King, Esq. (see above), and of the assurance of Messrs. Powell and Westlake, which forms part of that letter, it is further

"Resolved, That John King, Esq., be and he is hereby appointed Assistant President of this company, with the expectation that he will take Mr. Jewett's place as President of this company at an early date, to be determined by Mr. Jewett, and that, when Mr. Jewett shall resign his Presidency, the proper officers of this company are hereby



authorized and directed to make a contract with Mr. Jewett whereby his counsel, advice and aid in the management of the affairs of this company may be secured as Chairman of the Executive Committee, or otherwise, for the term of one year after such resignation, at his present salary, and that a copy of this resolution be given to Mr. Jewett with the request that he will, at least for the period above designated, remain taking an active interest in the affairs of the company."

Mr. T. W. Powell, one of the representatives of the English stockholders, is reported as speaking as follows, just before starting on his return to England:

"The statement that the Erie Co. ought to have \$4,000,000 to \$5,000,000 of funded capital to pay floating debt and make its finances comfortable, is correct. The non-payment of the June coupon is now justified, for the rates have been so low and the trade of the trunk lines is so dull that the net earnings of the current financial year will show the second mortgage interest fully earned. If you ask as to the coupon for the future, the payment must depend on the future net earnings. Prophesying is a thing which each man must do for himself. In respect of future earnings, however, it must be borne in mind that they may perchance have to be availed of, to some extent, for the future equipment trust installments, if not otherwise provided for. We have at present to deal with the facts of the present, and the chief fact of the present is that there is a floating debt caused by three or four principal items: advances to the Chicago & Atlantic road, advances for coal mines and coal railroads in the Bradford District, advances for improvements on the Hudson River at Weehawken, and equipment trust installments, for none of which have any sufficient permanently funded ways and means been provided; so the company was caught by the May panic, and the trouble was accentuated and aggravated by the Grant & Ward disaster."

"It is now clear enough that the owners of the road, not only shareholders but also second-consolidated mortgage bondholders, ought to see to the providing of sufficient permanent funds for disembarassing the company. The sooner they do it the better for their own interests, for no road can work to the best advantage unless it can pay for labor and supplies promptly. We shall press on the English owners that they must do their own part from motives of self-interest, but it were idle to expect that they will do the proportion of the American owners also. Together they can do the work if they choose, but neither of them need expect the money to be provided by looking on; nor can we suppose that the wealthy men who are interested in New York would wish to stand by and look on. But it is proper and right also to explain that Mr. King, whose advent has been favorably received by the public, has only consented to accept the position of President in full reliance that the floating debt will shortly be funded, and has no idea of assuming the Presidency embarrassed and worried by a financial deficiency, when he ought to be free to devote himself entirely to the efficiency of the service and the production of net revenue."

"The method in detail of funding the floating debt ought to be framed in New York, and it is our desire that it should be devised here; it is altogether more fitting that it should be so. We have, however, given the subject much and careful consideration. Mr. Jewett, the President, is in possession of our ideas, and so is Mr. Macfarland, whom we have consulted as our counsel, and who will be prepared to explain them to and discuss them with the holders in New York who may be willing to assist the board in arranging the financial question and in proposing the arrangements when made to the English holders for their co-operation. When New York leads off London ought promptly to follow. The Erie line is a great New York property, very important to this wealthy city and New York should not think of playing second fiddle when it ought for all reasons to insist on playing first. As to the condition of the Erie, I have been over the road, and I found it in good running order—immeasurably better than when I went over it in 1877."

**New York & New England.**—The committee having in charge the arrangement of a plan for the adjustment of this company's financial difficulties, and the termination of the receivership, have been in conference recently, and are, it is understood, making good headway toward the accomplishment of their purpose. Their report is to be submitted to the adjourned special meeting of the stockholders in October.

**Northern Central.**—This company's statement for July and the seven months ending July 31 is as follows:

	July.	1883.	Seven months.	1883.
Earnings .....	\$477,516	\$474,524	\$3,097,771	\$3,419,138
Operating exps. ....	\$269,892	\$276,590	\$1,770,100	\$1,927,278
Extraordinary exps. ....	36,368	21,296	208,072	237,677
Total exps. ....	\$306,260	\$297,885	\$1,978,172	\$2,164,955
Net earnings ....	\$171,256	\$176,029	\$1,119,599	\$1,254,183
Per cent. of exps. ....	64.1	62.6	63.9	63.3

The decrease in gross earnings for the seven months was \$321,367, or 9.4 per cent. For the same period there was a decrease of \$157,178 in operating expenses and of \$29,605 in extraordinary expenses, making a decrease in total expenses of \$186,783, or 8.6 per cent.; the result being a decrease of \$124,584, or 10.7 per cent., in net earnings.

**Northern Pacific.**—Orders have been given to withdraw the company's rolling stock from the branch of this line extending from Tacoma, Wash. Ter., to Seattle, and it will not be operated for the present.

**Ogdensburg & Lake Champlain.**—President Mills has been engaged since his election in reorganizing the working force of this road so as to reduce the expenses, and says that he has so far succeeded that he expects to save from \$40,000 to \$50,000 a year. He reports that the earnings of the road were rather light during the early summer months, but recently grain has been coming forward to Ogdensburg and thence westward over the road in considerable quantities, and the earnings have improved. No statement of their amount, however, is made public.

**Oregon & California.**—The report comes from Portland that this road will very probably be leased to the Central Pacific Co., and it is even said that negotiations to that effect have been opened. Upon what basis this report rests the local papers do not state.

**Oregon Improvement Co.**—This company's statement for June and the seven months of its fiscal year from Dec. 1 to June 30 is as follows:

	June.	1883.	Seven months.	1883.
Earnings .....	\$278,725	\$358,218	\$1,932,565	\$2,133,836
Expenses .....	210,136	236,809	1,320,113	1,522,215
Net earnings .....	\$68,589	\$121,409	\$612,452	\$611,621
Per cent. of exps. ....	75.3	65.9	68.0	71.3

For the seven months this shows a decrease in gross earnings of \$201,271, or 9.4 per cent.; a decrease in expenses of

\$2,103, or 0.1 per cent., and a resulting decrease of \$199,169, or 32.5 per cent., in net earnings.

**Oregon Railway & Navigation Co.**—For some time work has been pushed very energetically on the Baker City Branch, which is to connect with the Union Pacific's Oregon Short Line. The track is now reported down for 65 miles southeast from La Grande, Oregon, the late terminus, and 370 miles from Portland, leaving about 40 miles to be laid to reach Huntington. The distance from Portland to Huntington by this line will be about 410 miles and as the distance from Huntington to Omaha by the Oregon Short Line and the main line of the Union Pacific is 1,419 miles, the total distance from Portland to Omaha will be 1,829 miles.

**Pennsylvania.**—This company's statement for July shows for that month, as compared with July, 1883, on all lines east of Pittsburgh and Erie:

A decrease in gross earnings of .....	\$141,865
A decrease in expenses of .....	40,247
Net decrease .....	\$101,618

For the seven months ending July 31, as compared with the corresponding period last year, the same lines show:

A decrease in gross earnings of .....	\$1,161,195
A decrease in expenses of .....	652,993
Net decrease .....	\$508,202

Carrying out these differences we have the following statement:

	1884.	1883.	Inc. or Dec.	P. c.
Earnings .....	\$3,980,085	\$4,130,950	D.	\$141,865 3.4
Expenses .....	2,507,990	2,638,216	D.	40,247 1.5
Net earnings .....	\$1,391,116	\$1,492,734	D.	\$101,618 6.8
Seven months:				
Earnings .....	\$27,322,337	\$28,483,532	D.	\$1,161,195 4.1
Expenses .....	17,818,978	18,471,971	D.	652,993 3.5
Net earnings .....	\$9,503,359	\$10,011,561	D.	\$508,202 5.1

All lines west of Pittsburgh and Erie for the seven months of 1884 show a deficiency in meeting all liabilities of \$721,322, being a decrease of \$1,058,968 as compared with the same period of last year.

**Philadelphia & Reading.**—The statement of operations for July and the eight months of the fiscal year from Dec. 1 to July 31 gives the following figures for the earnings of the railroad lines:

	1884.	1883.	Inc. or Dec.	P. c.
Earnings .....	\$2,707,791	\$2,979,094	D.	\$271,303 7.1
Expenses .....	1,551,012	1,539,672	I.	11,340 0.7
Net earnings .....	\$1,216,779	\$1,439,422	D.	\$222,643 15.4
Eight months:				
Earnings .....	\$19,284,097	\$15,740,328	I.	\$3,543,769 22.5
Expenses .....	11,674,923	8,834,912	I.	2,840,011 32.1
Net earnings .....	\$7,609,174	\$6,905,416	I.	\$703,758 10.2

The statement includes the earnings of the Central Railroad of New Jersey in both years for July; for the eight months those earnings are included for the entire period this year, but for two months only (June and July) in 1883. For June and July the company has not given the Central earnings separately, as it had previously done, so that there are no means of determining how much those earnings contributed to the increase shown for the eight months. From previous reports, however, it is certain that all the increase (and more) came from the Central lines.

The traffic reported is as follows, the Central lines being included as above for the whole of this year, but for two months only last year:

	July.	1883.	Eight months.	1883.
Passengers .....	2,253,144	1,987,486	15,495,734	9,671,102
Tons merchandise .....	726,573	751,736	5,840,314	4,809,535
Tons coal .....	1,017,237	1,073,908	6,943,432	6,558,205
Tons coal on colliers .....	40,217	41,788	341,043	341,351

The gain in traffic this year was wholly from the addition of the Central lines. For the month on the same mileage both years, the freight and coal tonnage shows a falling off, but there was a considerable gain in the number of passengers.

The earnings of the Philadelphia & Reading Coal & Iron Co. were as follows:

	July.	1883.	Eight months.	1883.
Earnings .....	\$1,433,684	\$1,439,747	\$9,598,058	\$9,681,383
Expenses .....	1,385,967	1,374,823	9,990,902	9,531,227
Net or deficit .....	\$47,717 N.	\$64,925 D.	\$401,844 N.	\$150,156

This company shows a surplus for the month for the first time this year. For the eight months there was a decrease of \$63,325 in gross earnings and an increase of \$468,676 in expenses, making a total loss of \$552,000, changing the small net earnings of last year to a heavy deficit for the present year.

The coal mined and shipped from the company's lands was as follows:

	July.	1883.	Eight months.	1883.
By Coal & Iron Co. ....	418,041	349,257	2,664,353	2,543,880
By tenants .....	63,180	122,068	474,437	932,034
Total .....	481,221	471,325	3,138,790	3,475,914

The decrease has been in the coal shipped by tenants, which may possibly be due to the present working by the company of collieries which were leased last year. The total decrease in coal mined from the company's lands for the eight months was 337,124 tons, or 9.7 per cent.

In the statements above the expenses do not include anything for interest or rentals, the net earnings being the amounts from which those charges are to be paid.

The net result for both companies was as follows:

	1884.	1883.	Inc. or Dec.	P. c.
Railroad Co. ....	\$1,216,779	\$1,439,422	D.	\$222,643 15.4
Coal & Iron Co. ....	47,717	64,925	D.	17,208 26.5
Total .....	\$1,264,496	\$1,504,347	D.	\$239,851 15.9
Eight months:				
Railroad Co. ....	\$7,609,174	\$6,905,416	I.	\$703,758 10.2
Coal & Iron Co. ....	401,844	150,156	D.	452,000 ...
Total .....	\$7,207,330	\$7,055,572	I.	\$151,758 2.1

\* Deficit.

It should be noted also that the rental of the New Jersey Central forms this year a largely additional charge. The exact amount cannot be stated, but the amount required for its payment this year must have been about \$3,150,000 greater than the amount required for its payment in the two months under the lease of last year. If we deduct this excess from the net earnings this year, we have a decrease of \$2,998,242, or 42.5 per cent., as the net result of this year's operations thus far.

In Philadelphia, Aug. 23, Special Master George M. Dallas filed a report in the United States Court. It recommends that a petition filed by the Receivers "for leave to indemnify and compensate sureties" be granted, such an order having been made by the Court in the case of the former Receivership. The petition which was appended to the report set out that it sometimes became necessary to enter into certain contracts requiring security to be given for their

faithful performance; also to take appeals from illegal or extortionate assessments of taxes, as well as from judgments and decrees believed to have been erroneously entered by lower courts, to obtain injunctions and other relief, and to secure the release of property attached or subject to lien. The security available for these different purposes, it was said, could not be obtained unless the Receivers were authorized to agree to indemnify the persons or corporations entering the same. It was further asked that the Receivers be allowed to pay reasonable sums to induce responsible persons or corporations to be security when desired.

**Pittsburgh Junction.**—The Pittsburgh Railway Reporter of Aug. 23 says: "The Junction Railroad tunnel, which is fast nearing completion, will be over 3,000 ft. long, 26 ft. wide and 25 ft. high in the clear. Five hundred men have been engaged on it since March, 1883. They have worked in four gangs, one at either end, and two in the middle, where they entered through a shaft 80 ft. deep. The roof of the tunnel is about 60 ft. below the collars of Neville street houses. But two men have been killed, one by a fall of slate in the shaft, another by his own fault."

**Rochester & Pittsburgh.**—The suit brought by the Union Trust Co. as trustee to foreclose the second mortgage, has been withdrawn. It has been ascertained that the suit cannot properly be brought until 60 days after default is made in interest, and the default did not occur until Aug. 1.

It is understood that the suit will be renewed when the 60 days have expired.

**St. Joseph Valley.**—A contract has been let for the extension of this road from Berrien Springs, Mich., to St. Joseph, about 15 miles, and also from Buchanan, Mich., to South Bend, Ind., 14 miles. The contractor is Mr. F. E. Parker, of Milwaukee, who agrees to begin work within 10 days, and to complete the grading by the close of the present year.

**St. Louis & Western.**—An application was made to the United States Circuit Court in Kansas City, Mo., Aug. 25, for the appointment of a receiver for the property of this company. The company, which is successor to an older corporation, was organized for the purpose of building a railroad from Laclede, Mo., to Fort Scott, Kan., but has never completed any of its road.

**South Pennsylvania.**—Another installment of 5 per cent. on the capital stock of this company has recently been called and paid up. Work on the road is progressing rapidly, the double tracks being all well advanced, while grading is in progress at a number of other points besides the tunnels, and several contracts have been let for bridges.

**Stock Distribution.**—The Boston Post has been collecting statistics concerning the distribution of stocks and the number of stockholders in various companies. The figures for a few prominent corporations are as follows:

	Feb., 1883.	Nov., 1883.	Feb., 1884.
Chicago & Alton .....	1,296	.....	1,343
Lake Shore & Michigan South'n ..	2,707	3,022	3,208
Pullman's Palace Car Co. ....	1,671	1,797	1,998

The average holding in the Chicago & Alton was thus about 111 shares; in the Lake Shore about 152 shares and in the Pullman Co. about 73 shares.

The Pennsylvania Railroad Co. reports in November, 1882, a total of 14,721 stockholders, which had increased in May, 1883, to 15,745 and in November, 1883, to 17,718. At the last date the average holding was thus only about 96 shares of \$50 each (the shares of the other companies are \$100 each). The Pennsylvania stock has always been widely distributed, with a large number of small holders. All the companies giving statements to the Post show an increased number of stockholders.

**Texas & Pacific.**—In the United States Circuit Court in New York, Aug. 27, Judge Wallace rendered an opinion in the suit of Henry S. Marlor against the Texas & Pacific Railroad Co. The plaintiff is the owner of 150 bonds of the defendant company of \$1,000 each, and sues to recover two installments of interest on the bonds—one of \$10,500, payable July 1, 1882, and another of the same amount payable July 1, 1883. The bonds are part of an issue created by the defendant company in 1875, and known as income and land grant bonds. They are secured by a mortgage which is a first lien on 7,600,000 acres of land of the railroad company, and also on net income arising from operating the defendant's lines of railroads east of Fort Worth after paying interest on prior mortgages thereon.

Before the commencement of the suit the directors of the defendant company adopted a resolution providing for the payment of the interest in scrip. Notice of this action on the part of the defendant was given to the plaintiff and to the bondholders generally by publication. It is insisted by the defendant that the railroad company is not in default until a demand is made by the plaintiff. As no valid demand had been made by the plaintiff he should fail in his action.

Judge Wallace ordered judgment for plaintiff for \$21,000 with interest on each amount until the present time, holding that under the terms of the bonds, the right of the company to pay in scrip ceased after the interest became due.

**Toledo, Cincinnati & St. Louis.**—The latest report is that the Quigley Committee has secured a majority of the bonds of the main line and St. Louis Division. It is said that this committee has also completed negotiations for securing a sufficient amount of money to change the road to standard gauge, and that it is negotiating for a consolidation of the St. Louis Division with the Lake Erie & Western road.

**Western North Carolina.**—Track on the Ducktown Branch of this road is now laid to the junction of the Tennessee and Nantahala rivers, 10 miles westward from Charleston, S. C., and 75 miles from Asheville. The contract with the state required that the road should reach this point by Sept. 1, and some pretty fast tracklaying was done to finish it within the time allowed.

Work is to be continued steadily toward Murphy, but will not be pressed, as the agreement does not provide any time for its completion, simply specifying that the company shall keep a certain force at work until it is finished. At the Nantahala the road is well up into the remote mountain region in the southwestern corner of North Carolina, and a little more than half way from Asheville to the Georgia line. Under the contract it has the right to build a branch down the Tennessee River into East Tennessee, and another southward up the Nantahala and through Rabun Gap into Georgia. These branches will probably be built after a time, and will form part of the through line from Knoxville to the South Carolina seaboard, which was projected nearly 40 years ago, and which is not likely to be finished for several years yet.

**Wheeling & Lake Erie.**—The Court has granted power to the Receiver to increase the permanent facilities of the road at Huron, O., and to extend the present sidings and to build new sidings where necessary to accommodate the business; also to purchase a number of cars for the coal and iron traffic. These improvements and additions to the equipment are to be paid for by the issue of receiver's certificates.